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BLUE JAY

June 1988

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Cover: *Thirteen-lined Ground Squirrel. Wayne Lynch*

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WILLIAM A. BROWNLEE (1901 - 1987)

William A. Brownlee was at heart a conservationist, who demonstrated his commitment throughout his life in his work and in his recreational activities. He first learned to appreciate nature in the lovely rolling countryside of the Moose Mountains where he grew up, and when the Saskatchewan Natural History Society was planning its summer meet there in 1959, he wrote invitingly in the *Blue Jay* about that area as one of the province's beauty spots. He talked especially about the abundance of native trees and shrubs, although there were no conifers in the park except those that had been planted there. Modestly, he did not mention the part that he himself had played in setting out little seedlings in the early 1920s, which have since become avenues of tall mature evergreens. His wife, Helen Brownlee, tells us that he retained his joy in nature until the end of his life, and never tired of looking out from the windows of his home where he spent his last days. Sitting there in his chair, he would call her, for example, to "take a minute" to look at the beauty of a birch tree in their garden during an ice storm.

William Andrew Brownlee was born 15 May 1901 in the High View District, in what was then the Northwest Territories. His parents, William and Elizabeth Brownlee had come as pioneers to Cannington Manor from Enniskillen, Northern Ireland. In the Arcola-Kisbey history book, published in 1987 (shortly after Brownlee's death), Brownlee tells the family story, with this description of life on the farm during his boyhood years:

> Work on the farm was carried out with horses and horse machinery until about 1916 when gasoline tractors and some newer machinery began to replace horse power. Cattle were kept and required a lot of work. There was the cutting of native grass for winter feed, stacking, hauling, and spreading in the feed lot in winter. Pumping water was okay if the small engine and pump jack worked!

Brownlee left the farm to go to the Manitoba Agricultural College in Winnipeg. Later he was employed for three seasons with the headquarters staff at Kenosee (Fish Lake) and in 1927 he was sent to the Long Lake Ranger station north of Kisbey as a forest officer who served both as a ranger and a game guardian.

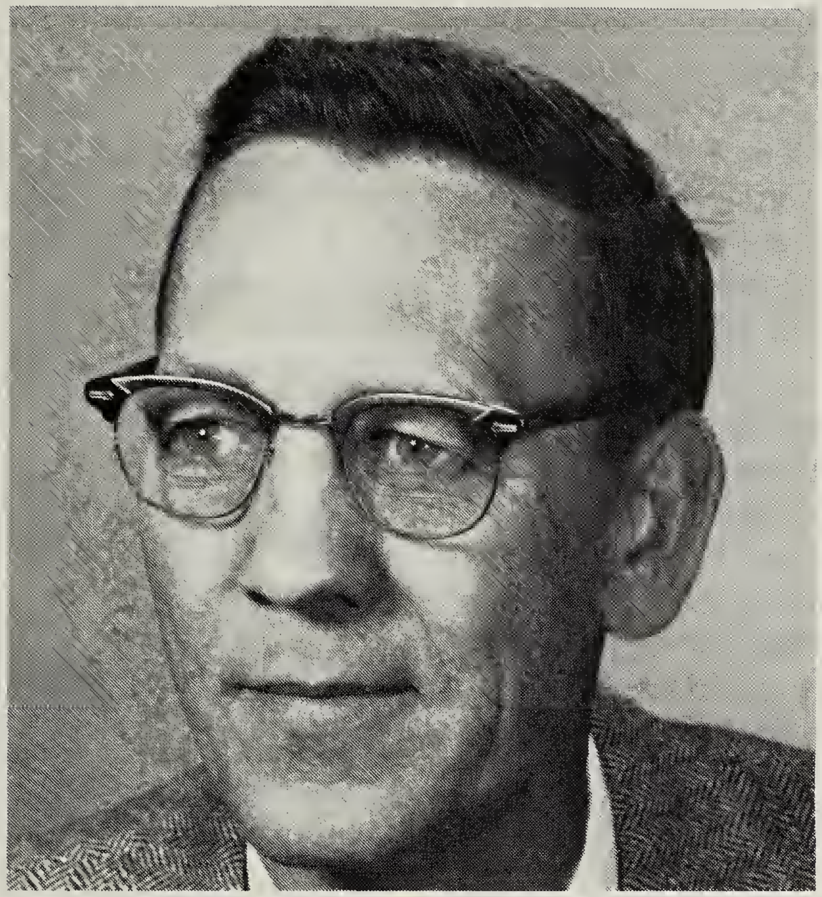
William Brownlee married Helen Thonger of Kisbey in 1929 and they moved the following year to Indian Head where Brownlee worked with Norman Ross, the Superintendent of the Forest Nursery Station. Their son, John Andrew, was born there in 1931. In 1935 Brownlee was taken on staff by the Saskatchewan Department of Natural Resources and he continued to work out of Indian Head until 1942, when he went to Yorkton. In 1946 he was transferred to the Game Branch of the Department in Regina. In 1952 he moved to the Federal Department of Indian Affairs where he was employed until his retirement in 1966. With Indian Affairs he went to the Red Pheasant Reserve at Rose Valley and then to the Nut Lake Reserve. When he retired he and Helen returned to Regina.

W.A. Brownlee first came to the attention of other Saskatchewan naturalists when he moved to Yorkton and joined Isabel M. Priestly's enthusiastic newly-fledged Yorkton Natural History Society. The year he moved to Yorkton (1942) was the year in which that society and its newsletter publication, the *Blue Jay* came into being. In the next few years the name of W.A. Brownlee appeared frequently in the *Blue Jay* — as a director of the Yorkton Natural History Society, as a contributor to its notes, or as a member of the Yorkton Christmas Bird Count (that he went on with his young son).

W.A. Brownlee was also a founding member of the Saskatchewan Natural History Society which was organized in 1949 in Regina, by which time Brownlee was living and working there. He was thus able to serve as one of the directors of the new provincial society. At the first annual meeting he acted as secretary and from that time on he continued to be involved in the Society's work. Perhaps long-time members of SNHS remember him best as the provincial director from Rose Valley and after his retirement and return to Regina, as the society's president, in which office he served for two years (1967-69). He had also, for a short time in 1951, served as president of the Regina Natural History Society. As president of SNHS he encouraged young naturalists and when the annual meeting was in Regina he had a houseful of boys and girls from the Junior Natural History Society in Saskatoon billeted in his basement. The loyal commitment of the early members of the natural history societies in the province laid the foundations for the strong conservation-oriented organization that the Saskatchewan Natural History Society is today.

In speaking to us about her husband, who died in Regina on 13 February 1987, Helen Brownlee told us of the tribute Al Hochbaum had paid him during a memorable visit to Delta in 1952. "I'll never forget him," said Hochbaum of Brownlee, "What a naturalist!" — *Margaret Belcher*, 2601 Winnipeg Street, Regina, Saskatchewan S4P 1H8 and *George F. Ledingham*, 2335 Athol Street, Regina, Saskatchewan. S4T 3G4

DOUGLAS E. WADE (1909-1987)



Friends of Doug Wade will be saddened to learn of his death on 15 September 1987 at the age of 78. Doug and his wife Dorothy had just arrived at their home in Oregon, Illinois, from a natural history outing when he suffered a stroke. He died shortly thereafter.

Born and raised in Beloit, Wisconsin, Doug became one of Aldo Leopold's earliest students, graduating in 1938 from the University of Wisconsin with a master's degree in wildlife management. Later, while Naturalist-in-Residence at Dartmouth College, New Hampshire, Doug produced an excellent film on the Peregrine Falcon — good evidence of his abiding interest in wildlife conservation and education. As an Associate Professor of Zoology and Wildlife Management at Clemson College in South Carolina, he was in charge of a 30,000-acre Land Utilization Area. He served on the South Carolina Wildlife Resources Commission with responsibility for state conservation education programs. Later, he worked in Iowa as Editor of the *Journal of Soil and Water Conservation*, published by the Soil Conservation Society of America.

Doug served actively in The Wildlife Society (treasurer and vice-president); Conservation Education Association (director); Society of Interpretive Naturalists, Great Lakes Region (program chairman); American Nature Study Society (president); and Ogle County Environmental Education Council (member, steering committee). He was a charter member of The Wilderness Society, and he held membership in Zero Population Growth, Sierra Club, Nature Conservancy, Fiends of the Earth, Wisconsin Botanical Society and others.

Doug and Dorothy and their son Alan came to live in Regina in May 1960 after he was appointed Head of the Information and Education Division of the Saskatchewan Department of Natural Resources. His influence and performance in that position may be judged by noting that during the next four years canoe routes were established in the north, together with descriptive pamphlets; nature trails were developed in the Cypress Hills; outdoor education became an active field in the province; and *wilderness* became a component in park planning.

For four years the Wades enthusiastically explored Saskatchewan, photographing and reporting their appreciation of northern forests, lakes and streams, southern prairies and wetlands, badlands and urban natural areas. During this period Doug published 10 articles and 11 book reviews in the *Blue Jay*, and edited or inspired a dozen or more other published items on natural history in the province. Doug's interest in nature extended to a multitude of services to the Saskatchewan Natural History Society. He and Dot contributed freely to a variety of committees and activities.

A lot of people were disappointed when the Wades left Canada to move to Illinois in September 1964. Shortly thereafter, in recognition of his contributions, he was given the Conservation Award by the Saskatchewan Natural History Society, at the Annual Meeting in Regina. A statement I was privileged to read on that occasion noted that the award was: " given to Douglas E. Wade for his devoted interest in natural history and conservation. Professionally and personally, Doug Wade maintained a firm and committed stand on conservation matters, the kind of attitude from which the whole community and even the land itself benefits."

In the fall of 1964 Doug joined the faculty in the Outdoor Education Department of Northern Illinois University, at the Lorado Taft Field Campus, Oregon. Located in a forested area high above the Rock River in northwestern Illinois, the campus is renowned for its work in outdoor education and Doug fitted in well. On one of my visits there, Doug pointed to a group of harvestmen or daddy-longlegs on the damp, shady side of a building. He had his students recording the movement of harvestmen in relation to weather, thus learning about ecology right on the doorstep of the lab. This was so typical of Doug. I can recall him giving a lesson in outdoor education on the gravel playground at a Regina school, drawing the attention of kids to the weeds growing there, helping them to notice the natural world at their feet.

In Illinois, Doug was back in familiar country, exploring the landscape with his students, ranging out from the wooded hills across the intensively cultivated landscape. Aided by the botanical skills of Dot — collaborator on many projects — Doug renewed his efforts to preserve native prairie remnants, an interest held for more than 50 years since his student days at the University of Wisconsin. Doug is credited with helping to save the important Nachusa Grasslands and, especially, the Pine Rock Nature Preserve, and he was a founder of the Ogle County Prairie Preservation Society. For 10 years after his retirement in 1977, Doug and Dot devoted themselves to learning to propagate native prairie plants, supplying seeds to help restore prairie. Together they successfully propagated more than 300 species. Their son Alan is now managing a similar operation near Rochester, Minnesota.

Friends of Doug Wade will be pleased to know that a memorial fund has been established in his honor. Contributions will be applied toward the purchase of the Colwell tract at Nachusa Grassland and are being accepted by the Ogle County Prairie Preservation Society, Oregon Public Library, Oregon, Illinois.61061 — *Robert W. Nero,* Box 14, 1495 St. James Street, Winnipeg, Manitoba. R3H 0W9

FOXTAIL MUHLY NEW TO SASKATCHEWAN, RIGID SEDGE REAFFIRMED, ADDITIONAL RANGE EXTENSIONS

JOHN H. HUDSON, 103 Richmond Crescent, Saskatoon, Saskatchewan. S7K 1A9

During a sojourn in August 1985 at Camp Okema, the Anglican church camp at Emma Lake, I had the good fortune to find a grass not hitherto reported for Saskatchewan. It is Foxtail Muhly [*Muhlenbergia andina* (Nutt.) Hitchc.]. In general aspect it looks something like Marsh Muhly [*Muhlenbergia racemosa* (Michx.) B.S.P.], except that the single terminal head is a bit denser and definitely furry-looking. A good key will be found in Budd's Flora wherein it is pointed out that Foxtail Muhly has an awned lemma and more or less awnless glumes, while Marsh Muhly has awned glumes and an awnless lemma.[4] In Foxtail Muhly the lemma is furnished with basal hairs so long that they exceed the lemma and cause the furry look of the inflorescence.

Collection data are: #4570, 26 August 1985, damp, limy, gravelly beach of Emma Lake, south shore of peninsula 0.75 mi. west of Okema Beach, sw. corner L.S.D. 6 in 29-53-27-W2 (53° 36′N 105° 57′W).

The range and habitat are the remarkable things about this species. As to the range, Looman reported collecting this grass at Birch River Community Pasture and at Laurie Lake, Duck Mountain Provincial Park, both in Manitoba.[8] He noted with puzzlement the wide separation of these places from the plant's main range in the western mountains of the United States. Scoggan did not mention this one at all, even for B.C.[9] Boivin mentioned an older collection from Clear Lake, Riding Mountain National Park.[2] The collection reported here goes a little way to bridging the disjunction noted by Looman.

Boivin gave the habitat, likely from a label, as "gravelly shores." Looman stated his Birch River collection was from a "wet area in shallow depression", his Laurie Lake one "on moist rocky beach", and both were "somewhat saline wet soil." Plainly these areas are seepage of lime-bearing groundwater to surface which would be expected to occur here and there along the shores of lakes on limy glacial drift. The beach of Emma Lake on the Camp Okema property presents a long strip of the vegetation of calcareous groundwater bogs without any truly boggy soil. This strip is between the lowest old beach and the water; presumably the fall of lake level in historic times gives a little more gradient for the groundwater to seep to the surface. There appears to be no moss or peat on the strip; maybe the fall in lake level has been too recent (within 50 or 60 years) for a peaty layer to form. The resultant vegetation is a joy to the eye: I wrote down in my notes seeing blue Kalm's Lobelia, white Rush Aster, Asphodel with its red capsules, and Carex viridula [Greenish Sedge] contributing a touch of yellow-green, all in the same square foot.

In "Carex in Saskatchewan" there were entries under the names *Carex meadii* Dewey and *Carex tetanica* Schkuhr.[6] These names might or might not be conspecific; Boivin thought so — I really could not hold an opinion one way or the other for want of evidence.[1] These had been collected in the early days by Macoun, as follows: *C. meadii* as Macoun #31475. File Hills, 4 July 1879, and Macoun and Herriot #72692, base of Spy Hill 1 July 1906, both checked by K.K. Mackenzie; *C. tetanica* as Macoun and Herriot #72773, 2 July 1906, at Redpath, 8-10 mi. nw of Spy Hill. These are in the National Museum of Canada; I have seen the two 1906 specimens on loan. Since the habitat was given as moist prairie, and since the two species had not been collected in Saskatchewan for 70 years, I suggested that the species was/were extinct in the province due to the depredations of farming and the inroads of brome grass.

I am pleased to report that this suggestion was wrong. The first news that Rigid Sedge was still with us came in a letter from P.W. Ball of the University of Toronto, saying that he had seen *C. tetanica* as the collection Boivin and Dore 7822 from Kisbey in 1951, mislabelled as *Carex aurea* [Golden Sedge]. There chanced to be another replicate of this collection in the Fraser Herbarium, so I could check this for myself. Now knowing that *C. tetanica* did not look like *C. crawei* [Crawe's Sedge] or *C. livida* [Pale lead-colored Sedge] as I had surmised, but very much like *C. aurea*, I looked over my own collections, and found a specimen of *C. tetanica*, #3599, from Saltcoats, 21 July 1978, which I had taken to be a diseased or blighted *C. aurea*. This showed the habitat of *C. tetanica* to be marly groundwater-fed meadows, of the sort where Mealy Primrose or White Camas are found.

Live *Carex tetanica* was located on Strawberry Lake north of Odessa with George Ledingham - the collection was Ledingham and Hudson 4616, 22 June 1986, moist shrubby calcareous groundwater meadow, L.S.D. 9 in 20-16-13-W2 (50° 22'N 103° 46'W). This material was young and slender but the three stigmas on the perigynia distinguished it from *Carex aurea* which it at first appeared to be.

Later in the summer a visit was made to a series of ground water bogs between Carievale and Carnduff, 1-2 mi. south of Highway 18, whose existence I had inferred from the 1:50,000 topographic map. There the following collections of *C. tetanica* were made: #4651, 2 August 1986, wet, hummocky, marly groundwater bog, L.S.D. 8 in 28-2-32-W1 (49° 10'N 101° 44'W); #4654, same date and land number, down in a wetter flatter bog with Baltic Rush and Northern Reed Grass [*Calamagrostis inexpansa*]; #4660, same date, moist groundwater-fed meadow, L.S.D. 15 in 28-2-32-W1 (49° 10'N 101° 44'W). Numbers 4654 and 4660 are tallish plants 3 or 4 dm high with pistillate spikes 3-5 mm thick, which would never be confused with *Carex aurea* in life; but the pistillate spikes are not the 5-7 mm wide that authors of Eastern floras, like Fernald specify for *C. meadii*.[5] I therefore tentatively conclude that Boivin was correct in writing that *C. meadii* is conspecific with *C. tetanica*, at least for Canadian material.[1] It must be remembered, however, that four sheets from the edge of the range are not a good sample of a whole population.

There have been a few more range extensions and verifications of old collections to report from the seasons of 1984, 1985, and 1986.

A.J. Breitung reported Twig-Rush [*Cladium mariscoides* Torr.] from Dahlton and McKague.[3] Boivin used label data to give the locality as Wallwort near Dahlton.[1] All these localities refer to the same bog. Twig-Rush has not turned up elsewhere in Saskatchewan in the 50 years since the Breitung collections were made in 1936 and 1937. Its main range starts

Twig-Rush colony at left on shore of pond *J.H. Hudson*

at Batachawana Bay, eastern Lake Superior, according to Scoggan, and goes east from there.[9] Breitung in letters to me wondered whether this isolated station still existed, and asked me to revisit the site, indicating on maps where the bog lay. I went up for a weekend and found the bog. My difficulties and adventures in looking for it occupy 3.5 pages in my journal but need not be set forth here other than to say I ended the first day's search by getting most thoroughly lost. On the Sunday I was more successful and found the bog and Twig-Rush as #4660, 8 July 1984, wet spots in bog west of central lakelet, L.S.D. 15 in 17-41-15-W2 (52° 32'N 104° 08'W).

A couple of range extensions are:

Granular Sedge [*Carex granularis* Muhl] #4594, 14 September 1985, on cow trail at foot of slope just above marsh, n side Shell River valley, s edge L.S.D. 10 in 35-49-4-W3 (53° 16'N 106° 28'W), Shellbrook area. This is further northwest yet from a Rosthern report.[7]

Flowering Quillwort [*Lilaea scilloides* (Pair.) Haum] #4520, 6 July 1985. Field pothole (cultivated small slough that the farmer could not sow in spring because it was too wet), still wet, in sandy loam soil, w edge L.S.D. 4 in 2-33-10-W3 (51° 48'N 107° 20'W), near Laura. Reported by Boivin in Saskatchewan from Trossachs, Spring Valley, and (former post office) Belanger.[1] Are some of these field pothole oddities spread by farm machinery now?

Duplicates of the 1985 and 1986 collections have been distributed to the herbaria of the University of Saskatchewan, of the University of Regina, and of the National Museum of Canada; of the 1984 collection to the two former ones.

[1] BOIVIN, B. 1979. Flora of the Prairie Provinces. Part IV. Provancheria #5. Universite Laval, Quebec City.

[2] BOIVIN, B. 1981. Flora of the Prairie Provinces. Part V. Provancheria #12. Universite Laval, Quebec City.

[3] BREITUNG, A.J. 1947. Catalogue of the Vascular Plants of Central Eastern Saskatchewan. *The Canadian Field-Naturalist* 61 (3):71-700.

[4] BUDD, A.C. 1979. Flora of the Canadian Prairie Provinces. Revised and enlarged by J. Looman and K.F. Best. Research Branch Agriculture Canada Publication 1662.

[5] FERNALD, M.L. 1950. Gray's Manual of Botany. 8th edition. American Book Co. New York.

[6] HUDSON, J.H. 1977 Carex in Saskatchewan. Bison Publishing House, Saskatoon.

[7] HUDSON, J.H. 1984. A Second Evening Star in Saskatchewan. *Blue Jay* 42(1):21.

[8] LOOMAN, J. 1973. Some New and Interesting Plant Records for the Prairie Provinces. *Blue Jay* 31(3):176-179.

[9] SCOGGAN, H.J. 1978. Flora of Canada. Part 2. National Museums of Canada. Ottawa.

WILDLIFE HABITAT RECLAMATION MANUAL

A manual for reclamation of wildlife habitat is now available from Environment Canada Western and Northern Region. The manual was prepared for Environment Canada and the Alberta Recreation, Parks and Wildlife Foundation by the Delta Environmental Management Group Ltd. of Calgary while Wildlife Habitat Canada funded its printing.

The manual describes concepts and techniques applicable to major biomes in the Canadian prairie provinces. Included are the Mountains and Foothills, Boreal Forest, Aspen Parkland and Prairie Grasslands.

Until recently, reclamation goals in western Canada traditionally adopted either forestry or agriculture as end uses for reclaimed lands, depending on the particular location and landform. However, with improved reclamation methods and an increased awareness of the value of natural areas, greater emphasis has been placed on reclamation and enhancement of wildlife habitat.

This manual is a concise summary of state of the art knowledge gleaned from numerous industrial operators actively involved in land reclamation programs and from extensive scientific literature dealing with wildlife habitat management. It introduces wildlife habitat reclamation concepts, provides direction on preparing a reclamation plan and includes timing and resource considerations. In addition, details for modifying landforms, developing water bodies and establishing plant communities suitable for key wildlife species are presented.

Copies of the manual were made available from the following address:
Communications Branch, Environment Canada, Western and Northern Region, Twin Atria 2, 2nd Floor, 4999 - 98 Avenue, Edmonton, Alberta. T6B 2X3

A RARE MIGRANT CALIFORNIAN TORTOISE SHELL BUTTERFLY AT THE PAS, MANITOBA

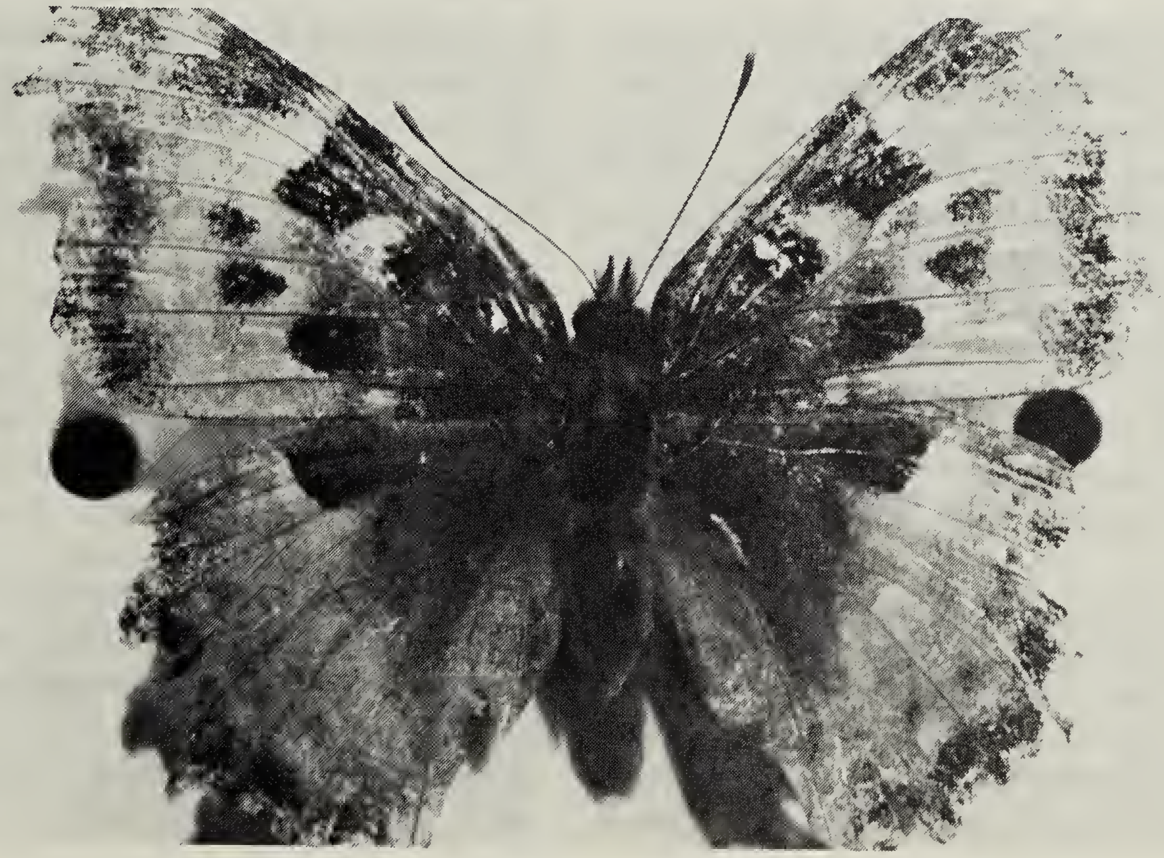
WALTER KRIVDA, Box 864, The Pas, Manitoba. R9A 1K8

Recently, in sorting and arranging an accumulation of butterfly specimens in my collections from the early 1960s a local specimen of *Nymphalis Californica* was located. It was taken on 8 July, 1961 on the height of land at the old Indian Cemetery at Big Eddy. This is on a gravel ridge overlooking Pike Lake and the adjoining chain of small Lakes. This may be a rare local instance of hill-topping of a foreign butterfly in these parts. The phenomenon has been well studied in Europe but not in Canada.

The author has never seen this species in this area before 1961 nor since this particular collection. It is a wind blown specimen very much out of its normal range, which is from B.C. to California. It has also been recorded from Iowa, Michigan and Pennsylvania in the U.S.A.

There are other published records where it has strayed a vast distance from its usual range. The climate is too severe here for it to become a part of the butterfly fauna. This is a good example of a specimen probing new areas into which it might expand and establish itself. From the photographic illustration it can be seen that the specimen travelled a long way. The wings are frayed and torn. Much of the scale structure is gone and the fine thoracic vestiture is gone also. This allows the shiny chitin to show through.

Migration of butterflies is linked to a yearly changing climate. The year 1961 was exceptional for insect abundance locally. It was a hot and windy summer. In such a year a species could travel 1000 miles and establish itself in a new area.



THE DUSKY SALAMANDER DOES NOT OCCUR IN SASKATCHEWAN

FREDERICK W. SCHUELER, Herpetology Section, National Museum of Natural Sciences, Box 3443, Station D, Ottawa. K1P 6P4

Since no one has ever supposed that the Dusky Salamander, *Desmognathus fuscus*, does occur in Saskatchewan, or indeed anywhere northwest of Indiana, except for a recently introduced population in southeastern Kansas, it would seem pointless to mention its absence, were it not for a specimen in the collection of the Museum of Comparative Zoology at Harvard University (MCZ 1572) labelled "Cedar Lake Saskatchewan."[3] [2] This specimen has been mentioned by Dunn and Preston who have doubted its authenticity on zoogeographic grounds.[5] [8] It was not mentioned by Bishop, Logier and Toner, or Cook.[1] [6] [4]

During a recent visit to the MCZ, the author was able to examine this specimen, and here reports information about it which casts substantive doubt on its authenticity. In the MCZ amphibian catalogue, this specimen falls among collections which were entered without any record of the date received or when they were catalogued, between MCZ 1478, received 18 October 1878, and MCZ 1612, received 10 November 1879. There are eight collections among these from the present province of Manitoba. The catalogue entries for these collections are listed in Table 1. No dates of collection are noted for any, but there are fish in the MCZ from this area collected by Scudder with a date of collection of 1860.

Two things are immediately apparent from Table 1. First these specimens did not come from Saskatchewan as a province, which did not exist in 1878-1879. The Gazetteer of Canada does not list a Cedar Lake in Saskatchewan. "Saskatchewan" here refers only to the river, so that "Cedar Lake" is Cedar Lake, Manitoba, at the mouth of the Saskatchewan River. Dunn and Preston correctly located Cedar Lake, so the "Saskatchewan" on the bottle label is doubtless a recent error of interpretation.[5] [8] Second, at the time of cataloguing MCZ 1572 was considered an *Ambystoma* ("Amblyst" is a truncation of "*Amblystoma*," a name formerly used for this genus). *Ambystoma tigrinum*, the Tiger Salamander, is the only salamander known to occur in the Canadian prairies, though *A. laterale*, the Blue-spotted Salamander, is found in eastern Manitoba and the southern Interlake.[8]

Four of the collections of Wood Frogs were not assigned a name; this hesitancy was doubtless due to the problem of identifying Wood Frogs in an era in which they were divided into three highly artificial species.[7] The specimens were subsequently identified as *Rana cantabrigensis*, and are perfectly plausible western or southern Manitoban *Rana sylvatica*; five are mid-dorsally striped and three are unstriped, which is the expected frequency there.[10]

The specimen bottle contains a recently written label, a loose metal tag with the number 1572, a loose paper label pencilled with "Saskatchewan Riv. Brit. Am. S.H. Scudder," and a half dried-up Dusky Salamander with 15 costal grooves, a keeled tail, and a snout-vent length of about 37 mm. None of the other collections listed in Table 1 are dried, the metal tags with which they are identified (identical in kind to that with MCZ 1572) are all tied to the specimens, and except for MCZ 1562, all the tags are tied on with

Table 1. CATALOGUE DATA FOR SCUDDER'S AMPHIBIANS IN THE COLLECTION OF THE MUSEUM OF COMPARATIVE ZOOLOGY*

MCZ	*Original number***	*Species*	*Locality*	*Collector or Donor*	*Specimens*
1548	768	[blank] [*Rana pipiens*]	Red River, Brit. Amer.		1
1561	765	[blank] [*Rana sylvatica*]	Red River Brit. Amer.		2
1562	770	[blank] [*Rana sylvatica*]	Lake Winnipeg + Saskatchewan Riv.	S.H. Scudder [donor]	3***
1565	791	[blank] [no record] [discarded 1/1/25]	Lake Winipeg larva [dittoed from MCZ 1564]	S.H. Scudder [collector]	-
1568	—	Bufo monolophus Cope [*Bufo hemiophrys*]	Lake Winipeg + Saskatchewan	S.H. Scudder [collector]	3
1571	766	Rana [*Rana sylvatica*]	Cedar Lake Saskatchewan	S.H. Scudder [collector]	2
1572	ditto	Amblyst [*Desmognathus fuscus*]	Cedar Lake Saskatchewan [dittoed from MCZ 1571]	S.H. Scudder [collector]	1
1574	767	Bufo [*Bufo hemiophrys*]	Red River Brit. Amer.	S.H. Scudder [collector]	2

* Spelling and punctuation are as in the catalogue book. Interpretive remarks and the present identification of the specimens are in square brackets.

** These are "Cope Rep." numbers, which are thought to refer to a lost MCZ original catalogue somehow associated with E.D. Cope (F.D. Ross, pers. comm.)

*** There are four specimens in the jar. This kind of counting error is fairly frequent in the older MCZ catalogues. (F.D. Ross, pers. comm.)

the same kind of coarse brown and white string. When there are more specimens than there are metal tags the specimens are linked together with thread. MCZ 1572 is also the only lot among these in which the locality given on the pencilled label in the bottle is different from that in the catalogue book.

Samuel H. Scudder was an entomologist. "In the summer of 1860 [he] made a collecting trip to Lake Winnipeg and the lower Saskatchewan... Among the butterflies [he] found at the mouth of the Saskatchewan [and] collected with difficulty on account of the mosquitos [was] a delicately marked and exquisitely pretty bluet," which was subsequently named Scudder's Blue (*Lycaena scudderi* Edwards). He was also a general naturalist, because he brought back amphibians and fish to the MCZ, and later compiled a list of all zoological generic names.[11]

In a book published under the name of "A. Rochester Fellow" in 1886 (in which he further styles himself "Francis Lutterby") Scudder gives an account of this trip, which was made to observe the solar eclipse of July 1860 from Cumberland House.[12] "The [United States] Government had despatched two of its astronomers on this six-thousand-mile journey for the information they were to gain on this single day, while a university museum [i.e. the MCZ] had added an assistant for the work, that opportunity might be given through him to increase its stores from the little-explored regions through which the expedition would pass."(p. 10-11) They never reached Cumberland House, and observed the eclipse through clouds from a muskeggy camp nearly inundated by the Saskatchewan River.

The book is mostly an account of the difficulties of travel and mosquitos, and Scudder seems as shy of dates as he is of his name. The party traveled by canoe up Lake Winning to Grand Rapids, then through Cedar Lake to the Pas, and then returned. The trip took 42 days centred on "mid-July." There is no mention of collecting amphibians, though they carried alcohol and preserved birds, fish, and mammals in it, and also collected many insects. The factor at Cedar Lake House, a Mr. De Leon, is mentioned as filling an alcohol can with "pelicans and other small fry for our naturalist."(p. 81)

I conclude that the original identification as *Ambystoma*, the loose tag when the other collections were tied, and the dried condition of the specimen when the other collections were not dried out, indicate that some error, in which a Dusky Salamander was substituted for the original specimen, occurred between the time MCZ 1572 was entered in the catalogue book and the time the systematic card file was established around 1900.

The range of neither the Blue-spotted nor the Tiger salamander, as presently known, extends to Cedar Lake, though the former approaches the southern part of Cedar Lake from the southeast and the latter from the southwest.[8] The pencilled label "Saskatchewan Riv. Brit. Am." may be the correct locality, and "Cedar Lake" may be dittoed from MCZ 1571 in the catalogue book. (It is suggestive of error that the "original number" is also dittoed, though Scudder seemed to regard Cedar Lake as a wide part of the Saskatchewan River.[12]) In any event, the specimen could not have come from within the known range of the Tiger Salamander along the course of the Saskatchewan River in Saskatchewan, because Scudder's party did not go upstream past The Pas. In those days the shores of Lake Winnipeg were on the main thoroughfare of travel in this region, and while roads built along the highest land now make some species of amphibians more accessible, Scudder, in his soggy lake-side camps, may have been more apt to encounter salamanders than is the modern collector.[9]

Acknowledgements

Help has come from many people in tracking down these facts. Frank Ross assumed that there would be Canadian problems in the MCZ Catalogue. Francis Cook, Don McAllister, Dan Brunton, and Hugh Danks helped to locate information on Scudder, and Bill Preston and Colleen Nelson found the account of his travels. The visit to the MCZ was made in connection with work on Rare and Endangered Canadian Fish, supported by the Department of Fisheries and Oceans through a contract with the National Museum of Natural Sciences, Ottawa.

[1] BISHOP, S.C. 1947. Handbook of salamanders: the salamanders of the United States, of Canada, and of Lower California. Comstock Press, Ithaca N.Y. 555 pp.

[2] COLLINS, J.T. 1974. Amphibians and reptiles in Kansas. Univ. of Kansas Mus. of Nat. History, Public Education Series 1:x + 283 pp.

[3] CONANT, R. 1975. A field guide to reptiles and amphibians of eastern and central North America. 2nd edition. Houghton Mifflin Co., Boston, xviii + 429 pp.

[4] COOK, F.R. 1984. Introduction to Canadian amphibians and reptiles. National Mus. of Nat. Sciences, National Mus. of Canada, Ottawa. 200 pp.

[5] DUNN, E.R. 1926. The salamanders of the family Plethodontidae. Smith College Fiftieth Anniversary Publ. 7:1-441.

[6] LOGIER, E.B.S. and G.C. TONER 1961. Check list of the amphibians and reptiles of Canada and Alaska. Life Sciences Div., Royal Ont. Mus., Contrib. No. 53:1-92.

[7] MARTOF, B.S. and R.L. HUMPHRIES 1959. Geographic variation in the Wood Frog, *Rana sylvatica*. *Am. Midl. Nat.* 61:350-389.

[8] PRESTON, W.B. 1982. The amphibians and reptiles of Manitoba. Man. Mus. of Man and Nature, Winnipeg. 128 pp.

[9] SCHUELER, F.W. and F.D. ROSS 1986. Range extensions for hylid frogs in Manitoba. *Blue Jay* 44(3):168-173.

[10] SCHUELER, F.W. and F.R. COOK 1980. Distribution of the mid-dorsal stripe dimorphism in the Wood Frog, *Rana sylvatica*, in eastern North America. *Can. J. of Zool.* 58:1643-1651.

[11] SCUDDER, S.H. 1882. Nomenclator Zoologicus — An alphabetical list of all generic names that have been employed by naturalists for recent and fossil animals from the earliest times to the close of the year 1879. Bull. U.S. National Mus. 19:xix + 376 + 340 pp.

[12] SCUDDER, S.H. [pseudonym A. ROCHESTER FELLOW] 1886. The Winnipeg country or roughing it with an eclipse party. Cupples, Upham & Co. Boston. 144 pp.

[13] SCUDDER, S.H. 1901. My first namesake. *Ottawa Nat.* 15:121-122.

CRESTON VALLEY WILDLIFE MANAGEMENT AREA — 20 YEARS

The Creston Valley Wildlife Management Area is celebrating its 20th birthday on 2 October 1988. A summer program of events is culminated by an official birthday celebration on that date, with special events all day including the filling and sealing of a time capsule. For more information contact **C.V.W.M.A., Box 460, Creston, British Columbia V0B 1G0** or **(604) 428-3260.**

BLACK-NECKED STILT IN SASKATCHEWAN

JIM A. WEDGWOOD, 610 Leslie Avenue, Saskatoon, Saskatchewan, S7H 2Z2 and PHILIP S. TAYLOR, 1714 Prince of Wales Avenue, Saskatoon, Saskatchewan. S7K 3E5

Two Black-necked Stilts, rare visitors to Saskatchewan, were seen by Jim Wedgwood and Jim Slimmon on 30 May 1987, beside Blackstrap Reservoir. The pair's nest was spotted by Phil Taylor on 8 June for the first confirmed provincial breeding of this southern shorebird.

North of the north dam in Blackstrap Coulee, southeast of Saskatoon, is a 1-km long slough split into two ponds by an east-west grid road. When first spotted from a car by Wedgwood, who was familiar with this species in Texas, the stilts were so close to the foot of the road's north shoulder that they could be seen by Slimmon only after the vehicle was turned. Initial notes were made: avocet-like form, striking black and white plumage, long bright red legs, 12:30 p.m., clear day, distance 5 m. The birds flew to the north end of the slough where Nigel Caulkett and Stan Shadick later relocated them. During the next several days many observers saw the birds, including field parties from the Canadian Nature Federation Conference on 4 and 5 June.

At 8:00 a.m. on 8 June Alan Smith visited the site and saw a Black-necked

Black-necked Stilt at Blackstrap Coulee *Jim Slimmon*

Stilt south of the road near the end of a point in the northeast corner of the pond. The bird crouched down, the way long-legged shorebirds do when sitting on a nest. Deducing that the bird was nesting, Smith withdrew.

Taylor, unaware of Smith's observation, visited the area the same afternoon. From the dam he observed a stilt feeding on the south shore of the south pond. After about 10 minutes the bird flew to the east shore, chased off a crow, then spent 3 minutes loafing and feeding. Next it flew to the point where Smith had seen the stilt and vanished into the vegetation. A stilt suddenly appeared on the end of the point and flew to a small wet meadow about 75 m to the east. From the sudden vanishing and appearance Taylor assumed he had seen one stilt relieving its incubating mate. He then walked slowly out onto the point. A stilt flushed and he saw the nest about 8 m away. Through binoculars he counted four eggs. The bird circled, landing in the water beside Taylor who was retracing his steps. The second stilt flew in and joined the first as Taylor left.

Bob Luterbach, who did not know about the nest, observed one bird on 9 June feeding in the southwest of the south pond.

Taylor revisited the site during a lull in the rain on 10 June. Seeing no stilts as he drove by, he stopped and walked to the point, flushing a Wilson's Phalarope which had been incubating 2 days previously. He found egg shells on the partly flattened stilt nest, evidence of predation. There were no tracks and the stilts were not seen. The site was photographed and the shells collected. Bernie Gollop searched the slough unsuccessfully on 11 June and on 14 June Tom

Location of stilt nest (arrow), Blackstrap Coulee, 10 June 1987 *P.S. Taylor*

Table 1. BLACK-NECKED STILT OBSERVATIONS IN SASKATCHEWAN TO SEPTEMBER 1987

Date	*Location*	*# Birds*	*Observers*
20 May, 1955	Arcola	3	P. McLellan[9]
7 May, 1971	Rosetown	1	D.H. Renaud[10]
5 June, 1977	Richlea	8	E.G. Smith (fide A. Smith, 1987)
6 Aug., 1980	Willowbunch Lake	5	W.C. Harris[7]
30 May, 1987	Blackstrap Res.	2	J.A. Wedgwood
3 Aug., 1987	Old Wives Lake	3	Burke Koral (pers. comm., 1987)

Riffel also failed to find a stilt.

This slough is highly saline and the point containing the nest was muddy alkaline soil. The base of the point was sparsely vegetated but the heavier growth of bulrushes (*Scirpus americanus* and *S. acutus*) towards the tip where the nest was situated averaged 25-30 cm in height. The nest was about 5 m from the water's edge and not more than 21 m from the grid road. Constructed of rushes, it was in the form of a truncated cone about 12 cm high with a top diameter of 16 cm and a depression of 3 cm.

Although all shell fragments at the site were collected, it is doubtful if there is enough for more than two eggs. Shell edges were broken inward and no evidence of embryo residue or chick or down remains was seen. Though cracked, slightly more than half of the pointed end of one non-glossy shell was whole, allowing its diameter and shape to be evaluated. The diameter was 29.8 mm compared to an average of 30.5 in a range of 28-32 mm given by Bent for Black-necked Stilt eggs.[1] Based on the diagrams shown in Harrison for this species, the pointed end was judged to be oval-pyriform in outline whereas Harrison gives the egg shape as subelliptical-oval.[8] However, there was close agreement on shape with the illustration given in Harrison. The eggs were pale brownish-buff with very dark brown spots and blotches overall, being slightly more marked than the typical stilt egg illustrated in Harrison.

Comments

Though a first for the Saskatoon area and the most northerly yet recorded in Saskatchewan, these were not the first Black-necked Stilts observed in the province. All reported sightings to September 1987 are listed in Table 1.

There have been 5 and 38 birds reported in Manitoba and Alberta, respectively, over 27 years, including the most northerly at St. Albert (Cleve Wershler, 1987, fide J.B. Gollop).[2] [3] [6] A small incursion may have occurred on the prairies in 1987, a total of 17 stilts being reported in Saskatchewan and Alberta, including 12 birds seen 10 May At Pakowki Lake in Alberta (Cleve Wershler, 1987, fide J.B. Gollop). More sightings have been made in each decade following the 1950s. However, these increases may have resulted from more birdwatching and not necessarily from more stilts.

Godfrey in *Birds of Canada* stated that perhaps the Black-necked Stilt has previously bred in Saskatchewan, "Qu'Appelle, June 1894, eggs in National Museum of Natural Sciences collection not certainly identifiable."[5] Thus the 1987 nesting appears to be the first confirmed breeding record in the province. It is not, however, the first for the Prairie Provinces. Three nests have been reported in Alberta, at least one of which was successful and downy young were photographed.[3] The Black-necked Stilt's usual breeding range is the American southwest, northward to Wyoming, Utah and eastern Oregon.[11] While the recent nesting records in the Prairie Provinces are significant extensions for the species in North America, similar irregular breeding north of the normal breeding range occurs in Europe and is apparently a characteristic of this species.[4] (Many authorities recognize the European and North American stilts as a superspecies. In Europe the American Stilt is considered to be a subspecies of the European Black-winged Stilt.)

The absence of tracks, the disappearance of two eggs, the lack of egg residue and the partial flattening of the nest all suggested an avian predator. Gulls, crows and magpies were present.

The authors were troubled by the predation of the nest. This was a lone pair rather than the more usual stilt nesting colony. When faced with intrusion of the nest area, loners react passively, sneaking away from the disturbance or quietly standing aside, which they did when Taylor flushed the incubating bird. Colonial nesters react aggressively to an intruder, diving, screeching and performing a variety of distraction displays in the air and on the ground, and they are joined by other stilts in attempts to discourage and divert predators.[1] The birds may also have been inexperienced first-time breeders which are known to be less successful nesters.[12] The odds may have been against a successful nesting. In Europe, the species avoids areas of human disturbance but readily accepts human activity not involving direct interference.[4] The question remains: to what extent did the human traffic and activity in this area influence predation? We do not know.

Acknowledgements

We gratefully acknowledge the information and assistance provided by Alan R. Smith and J. Bernie Gollop.

[1] BENT, A.C. 1962. Life Histories of North American Shorebirds. Dover Publ. Inc. 420 pp.

[2] BUTOT, RUDI 1977. Natural history observations — birds. *Alberta Field Nat.* 9(3):77.

[3] CHAPMAN, BETTY-ANN, J.P. GOOSSEN and I. OHANJANIAN 1985. Occurrences of Black-necked Stilts, *Himantopus mexicanus*, in western Canada. *Can. Field-Nat.* 99:254-257.

[4] CRAMP, STANLEY, Ed. 1983. The handbook of the birds of Europe, the Middle East and North Africa. Volume III. Oxford Univ. Press. 913 pp.

[5] GODFREY, W.E. 1986. The birds of Canada. National Mus. of Nat. Sciences. 595 pp.

[6] GOLLOP, J.B. 1984. Prairie provinces region. *Am. Birds* 38:926.

[7] HARRIS, W.C. 1980. Prairie provinces region. *Am. Birds* 35:195.

[8] HARRISON, COLIN. 1978. A field guide to the nests, eggs and nestlings of North American Birds. Collins, Toronto. 416 pp.

[9] McLELLAN, PETER. 1955. Sight record of Black-necked Stilt. *Blue Jay* 13(3):21-22.

[10] RENAUD, W.E., and D.H. RENAUD. 1975. Birds of the Rosetown-Biggar district, Saskatchewan. Sask. Nat. History Soc. Spec. Publ. # 9. 121 pp.

[11] SCOTT, S.L. 1987. Field guide to the birds of North America. The National Geog. Soc., Washington. 464 pp.

[12] WELTY, J.C. 1963. The life of birds. Alfred A. Knopf, New York. 546 pp.

NORTHERN WHEATEARS SIGHTED IN DUCK MOUNTAIN PROVINCIAL PARK, MANITOBA

ENID E. CUMMING, 141 Marsh Crescent, Regina, Saskatchewan. S4S 5R7

On 9 September 1986 in an abandoned gravel pit 4 miles west of Childs Lake in Duck Mountain Provincial Park, Manitoba, two unusual birds were sighted. The birds looked like they were searching for insects as they were poking around in the gravel and flitting from rock to rock. At a distance of 50 feet from the birds they could be seen quite well without binoculars; they were also studied with 8x binoculars.

The two birds were thrush-like both in bill and body shape and in general size and stance. In colour, they were soft grey on their dorsal surface with darker wings, black legs and bill and white underparts with no streaks or barring. Their most distinctive feature, however, was a black line from the bill through the eye. From their size, shape, behavior and especially coloration, I concluded that they were Northern Wheatears. The only other birds in this area that have grey, black and white plumage are: Loggerhead and Northern shrikes, Gray Jay, Dark-eyed Junco, and Black-capped Chickadee. The two birds I saw definitely were not any of these species.

At first I was not overly surprised to see wheatears here because only a month earlier I had seen Northern Wheatears while I was working in the northern Yukon. Since it was autumn, I assumed that these arctic birds must be migrating.

When I found out that wheatears do not usually migrate through this part of the country I realized the significance of this observation.

According to Robert Kreba, Saskatchewan Museum of Natural History, there are no Saskatchewan records of Northern Wheatear. In Manitoba there are three published sightings of wheatears at Churchill, all for fall 1968;[1] the only record of a Northern Wheatear south of Churchill is one sighted at Oak Hammock Marsh on 14 April 1982 by L. Gesell, R. Maksymchuk, and K. Stadnek.[2]

Acknowledgements

I would like to thank Bob Kreba, Saskatchewan Museum of Natural History, Regina, for providing information.

[1] JEHL, J.R., Jr. and B.A. SMITH 1970. Birds of the Churchill region, Manitoba. Special Publ. No. 1, Man. Mus. of Man and Nature, Winnipeg.

[2] WEDGWOOD, J. 1982. Prairie Provinces Region. [Spring migration -1982]. *American Birds* 36(5):864-866.

BOREAL CHICKADEES FEEDING WITH THREE-TOED WOODPECKERS

DONALD F. HOOPER, Box 40, Somme, Saskatchewan. S0E 1N0

On 30 November 1987 I went south of Somme to photograph Three-toed Woodpeckers in a bluff of flooded spruce trees at a Beaver dam. I soon found five Three-toed Woodpeckers (Northern Three-toed Woodpeckers) chipping off the spruce bark and feeding on insect larvae.

There were two Boreal Chickadees feeding among the piles of scaly bark on the snow at the bottom of the spruce trees. One bird frequently landed on the tree trunks and picked in the same places as the woodpeckers had. It stayed just a few inches below and fed on the small particles of insect larvae that were missed by the larger bird. As the woodpecker flew to another tree the chickadee followed it and continued feeding as before.

I returned to the same area of flooded spruce on 18 December and saw a Boreal Chickadee following the Three-toed Woodpeckers and feeding right behind them. I am sure that this was the same individual bird that I had seen in November who has developed this unique habit of feeding with the woodpeckers in a strange dependent relationship.

FIRST RECORD OF THE BLUE-WINGED WARBLER IN MANITOBA

KEITH A. HOBSON, Department of Zoology, University of Manitoba, Winnipeg, Manitoba. R3T 2N2

At 1015 h on 7 November 1987, while the author was censusing birds along the dune-ridge forest at the University of Manitoba Field Station (Delta Marsh), Manitoba, a male Blue-winged Warbler was observed.[3] [4] The bird was foraging in a mixed-species flock of three Black-capped Chickadees, two Ruby-crowned Kinglets and a Downy Woodpecker. Visibility was excellent and the ambient temperature was -1° C at 1000 h.

The first glimpse was of the bird's bright yellow plumage which contrasted dramatically with its black lores. Closer observation using 8x32 binoculars at 3-5 m, revealed the following characteristics: the golden-yellow forehead became olive-tinged on the crown; the nape, mantle and rump were olive-green, and the upper tail and wings were grey; two whitish wing bars were distinct; throat, cheeks and underparts were a uniform bright yellow except for a whitish crissum; the bill was thin and black and there was a narrow black eyeline extending to the base of the bill. Occasionally the bird fanned its tail, revealing two white under-tail spots near the tip.

The bird foraged for about 5 minutes on and near the ground amongst dense shrubs, dead burdock and nettles. It moved rapidly and frequently changed locations with short (5-10 m) flights. The bird was seen again at 1155 h about 80 m from its original location. It was still with two Black-capped Chickadees and was viewed within 3 m for about 5 minutes. It was located again with the chickadees at 1230 h when it was observed drinking from shallow water in a ditch. Photos were taken and are filed at the Manitoba Museum of Man and Nature, Winnipeg. This warbler was last seen on that day at 1700 h foraging about 40 m from where it was first located. No other birds were seen nearby.

The Blue-winged Warbler was observed the next day about 100 m from its original location by Rudolph Koes and family,

Robert Parsons, George Holland, Norm Cleveland and Russel Tkachuck. Based on his field notes, R. Koes believed the bird was a first-winter male (R. Koes, *in litt.*).

Although C.L. Broley recorded a female of the "Brewster's Warbler" (hybrid of the Golden-winged and Blue-winged warblers) east of Winnipeg in 1932, this sighting is the first Manitoba record for the Blue-winged Warbler.[2] It is likely that, after leaving breeding grounds to the south, the bird became disoriented and migrated north instead of south to its regular wintering grounds. The closest breeding population occurs in southeast Minnesota.[1] On 6 November, the day before the observation, winds were from the south at 8-16 kmph and the temperature reached 5° C. These conditions may have favoured a northward movement. Brazier similarly explained Saskatchewan's first specimen record of this species, a first-winter male obtained 9 November 1965.[1]

Acknowledgements
I thank Herb Copland and Rudolph Koes for helpful information and assistance. Mike Bryan provided technical assistance and Spencer G. Sealy provided helpful comments on an earlier draft of this manuscript. This is publication No. 44 of the University of Manitoba Field Station (Delta Marsh).

[1] BRAZIER, F. 1966. Saskatchewan's first specimen of the Blue-winged Warbler. *Blue Jay* 24(1):9-10.

[2] LAWRENCE, A.G. 1932. Chickadee Notes, Column 584. *Winnipeg Free Press*. June 03.

[3] MACKENZIE, D.I. 1982. The dune-ridge forest, Delta Marsh, Manitoba: overstory vegetation and soil patterns. *Can. Field-Nat.* 96:61-68.

[4] SEALY, S.G. 1980. Breeding biology of Orchard Orioles in a new population in Manitoba. *Can. Field-Nat.* 94:154-158.

BALD EAGLE KILLS AND CARRIES GIANT CANADA GOOSE

JOHN BARTLEY, Rennie, Manitoba. R0E 1R0

An article in the March 1987 *Blue Jay* about Bald Eagles preying on waterfowl has prompted me to record the following brief observation. Canada Geese nesting at the Alf Hole Goose Sanctuary in the Whiteshell Provincial Park near Rennie, Manitoba, have been identified as Giant Canada Geese, a subspecies weighing from 9 to 20 pounds. At Rennie, they arrive back in late March when open water may be limited. On 30 March 1988, while patrolling my trapline along the Whiteshell River near Mallard Lake the author flushed a flock of 15 geese from open water near a beaver dam. As they rose from the water an adult Bald Eagle suddenly dropped down from the sky and struck one. The goose fell to the ice and was quickly picked up by the eagle. The eagle flew off low with the goose, carrying it roughly 70 feet away to the far shore of the river where it dropped out of sight.

Later that day, at Basket Falls, another adult Bald Eagle was flushed from its resting place in a tree by the noise from my power toboggan. As it flew off, a large flock of Canada Geese swimming on the open water below the falls became extremely nervous; several of them dove beneath the surface of the water. This suggests that the geese recognised the eagle as a threat.

BLUE-WINGED WARBLER IN REGINA

TREVOR HERRIOT, 2963 Argyle Street, Regina, Saskatchewan. S4S 2B1

On the morning of 15 June 1987 at 6:30 am, there was an unfamiliar bird song amid the customary chorus of Robins, Yellow Warblers, and Clay-colored Sparrows outside the window.

It was a two-part buzz with a drop in pitch in the latter part and a tone or quality that immediately distinguished it from a Clay-colored Sparrow song. The singing continued at 15 to 30 second intervals, "zeeee-zuzz . . . zeeee-zuzz . . .," etc. Upon opening the front door and hearing the song clearly, it occurred to me that I had heard this song somewhere on the Ontario Field Naturalists' record of eastern warblers. The singer was in an American Elm tree three houses along the street that runs perpendicular to Argyle Street.

From approximately 8 m through 7 x 50 binoculars a bright yellow head and underparts, a distinct black line through the eye, a greyish tail and wings, and two whitish wing bars could be seen. The overall posture and contour was that of a

BLUE-WINGED WARBLER ♂

wood warbler in full song. The bird was clearly a Blue-winged Warbler.

Realizing the importance of the sighting I awoke Karen, tried phoning two other Regina birders, then I took a tape recorder to try to record the song. A faint, but sufficiently recognizable example was recorded.

Bob Luterbach, Karen and I watched the warbler at a distance of 7 - 8 m for several minutes. Luterbach agreed with our identification of the bird. At 7:00 a.m. the bird was singing at greater intervals. When Tom Riffel arrived at 7:15 a.m., we had just lost sight of the warbler and it had apparently ceased singing. Twenty minutes of searching and listening in the surrounding area turned up nothing.

At approximately 7:35 a.m. a Peterson tape of a Blue-Winged Warbler was played near the spot where the bird was last seen. Though the call was weak, the bird responded immediately. It had moved two houses down into a back yard. There Tom, Bob and I had excellent views of the bird at distances of less than 3 m.

Bob and Tom last saw the Blue-winged Warbler at approximately 8:00 a.m. Subsequent searches by local birders on 15 and 16 June proved fruitless.

Viewing Conditions

This bird was seen under a clear sky in full sunlight, first with sun behind observers and then at the side. It was seen and heard over several minutes by four observers, two of whom (Luterbach, Riffel) have considerable field experience and complete familiarity with the warblers expected in Regina. All four observers saw it through binoculars at distances ranging from 2.5 to 9 m.

Other Records

The only confirmed record of a Blue-winged Warbler in Saskatchewan occurred on 9 November 1965, when Frank Brazier found a dead male on the pavement of a Regina street.[1] Brazier's report noted two unpublished sightings of single Blue-winged Warblers at two separate locations near Regina on 19 and 20 May 1963.

As Brazier pointed out, the nearest breeding area for this warbler is hundreds of kilometres to the southeast at Minneapolis and St. Paul, Minnesota. According to the Regina office of Environment Canada, the unseasonably hot weather on 15 June 1987 (37° C) most likely resulted from a "south-easterly flow of warm air" on 13, 14, and 15 June. On 15 June the wind at ground level was south, southeast at 18 kmph. However, the wind speed at 1500 m was higher — perhaps 60 or 70 kmph.

Godfrey writes of the Blue-winged Warbler in Canada "Has wandered North to Wasaga Beach and Ottawa, Ontario . . . . Breeds rarely in extreme Southern Ontario." And, on the strength of Brazier's specimen, he lists the Blue-Winged Warbler as "accidental" in Saskatchewan.[2]

Conclusion

The apparent northwestward drift of eastern passerines recently (Yellow-throated Vireos at Moose Mountain, Golden-winged Warblers at Duck Mountain, a Northern Parula in Regina, resident for two weeks) certainly prompts speculation on the significance of such an unusual visit in late spring. Was this a mere accident caused by a stiff southeast wind, or will there be more Blue-winged Warblers in the next few years?

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[1] BRAZIER, F.H. 1966. Saskatchewan's first specimen of the Blue-winged Warbler. *Blue Jay* 24(1):9-10.

[2] GODFREY, W.E. 1986. The birds of Canada. National Mus. of Canada, Ottawa.

SASKATCHEWAN FLOCK OF SWAINSON'S HAWKS

BLAINE E. McGRATH, 328 Maddock Way N.E., Calgary, Alberta. T2A 3X6

While helping Monty McGrath with the harvest between 25 and 28 August 1987 we spotted a large flock of Swainson's Hawks feeding in the Mantario district. With the use of binoculars from the vantage of the top of a bin as many as possible of the hawks were counted. In one field 120 birds were counted perched on the ground. With the birds in flight and on the ground in other fields the flock was estimated to be about 200 birds.

A great variation in colour was evident — from very dark birds to one that stood out from the rest because of the amount of white on both its front and back.

The birds appeared to be feeding mostly on grasshoppers and crickets. Monty witnessed one of them near the swath ejecting a pellet consisting of cricket remains. The carcass of one bird was found under a swath, probably taken by one of the coyotes that were heard howling in this area. The location of the night roost of these birds was not found, however one evening at dusk a number of the birds were seen on the ground in a finished field. Dean Francis indicated that he had also seen these hawks 10 mi. further south during the week of 1 September; the flock had grown to approximately 400 birds.

The Swainson's Hawks that nested in the local coulees were still in the area when this large flock arrived. The young were still screaming for food from the adults. Although able to fly very well, they did not yet appear to be hunting on their own. This must have been quite a shock for them to see this invasion of their territory.

Swainson's Hawk *Brian Johns*

NORTHERN HARRIER KILLS AMERICAN WIGEON

PAUL BRACE, Box 159, Rural Route 3, Saskatoon, Saskatchewan. S7K 3J6

On 22 April 1985, approximately 10 km north of Wadena, Saskatchewan, an adult female Northern Harrier attacked and killed an adult male American Wigeon. Two male and one female wigeon were swimming in a pond less than 30 cm deep, about 20 m in diameter and 25 m east of Highway #35. At approximately 12:00 p.m., the hawk attacked one of the male wigeon. The hawk landed on the duck and the pair struggled in the shallow water for a period of several minutes. (The other two wigeon had left.) After the initial attack, the hawk resumed flight and repeatedly flew over the duck which now appeared unable to fly. The aerial harassment caused the duck to scurry about the pond and attempt to dive in the shallow water.

At 12:04 the hawk landed on the duck a second time; the duck flapped about less vigorously. At 12:09 the duck was still struggling, but it appeared close to death. At 12:10 the hawk appeared to be stripping flesh from the duck. At that time, I left the vehicle and approached the combatants. The duck was dead. The hawk flew off to land in a summerfallow field about 10 m from the edge of the pond.

Attacks by large raptors on North American ducks are not uncommon. Northern Harriers occasionally prey on waterfowl ducklings.[3] However, it is generally assumed that smaller and medium sized hawks, including harriers, do not have the equipment necessary to kill a duck as large as an American Wigeon. A partial literature review revealed a report of a female Northern Harrier attempting to salvage a dead American Coot and an earlier report of the same species killing an immature American Wigeon, presumably capable of flight.[2] [1]

[1] HAMMOND, M.C. 1948. Marsh Hawk kills Baldpate. *Auk* 65:297-298.

[2] MILLAR, J.B. 1964. Marsh Hawk attempts to salvage a dead coot. *Blue Jay* 22:148.

[3] SOWLS, L.K. 1955. Prairie ducks. Stackpole, Harrisburg, Pa., and Wildl. Mgmt. Inst., Washington, D.C. 193 pp.

Northern Harries stooping *Gary Anweiler*

ANTAGONISTIC BEHAVIOUR OF HORNED GREBES

E. OTTO HOHN, 11511-78 Avenue, Edmonton, Alberta. T6G ON4

Horned Grebes breed on small sloughs or ponds between Edmonton and Beaverhill Lake Alberta. The observations reported hare were made at a pool slightly less than 1 ha in area, separated by a secondary road from our acreage, 48 km east of Edmonton. Between 1967 and 1987 Horned Grebes nested on that pond each year from 1973 - 1978, in 1984 and possibly in a few other years when the author was absent during much of the breeding season.

In the morning of 21 May 1973 a pair of these grebes was present on the pond; they had no doubt been there for some time. In most years the species was first seen there about the beginning of May. A third (presumably male) Horned Grebe flew into the pond, landed, and almost immediately dived. When it surfaced, one of the paired grebes swam towards the intruder with head and neck lowered along the surface of the water in a posture like that depicted in Johnsgards' *Diving birds* (Fig. 36K).[1] The intruder withdrew but was pursued by the territorial bird, swimming fast or at times diving and emerging near the intruder, and flapping its wings whenever it came close. During 10 - 15 minutes of observation, the intruder remained on the pond but kept still, well away from the pair, partly hidden by tufts of the shoreline vegetation. It probably left soon after, for by 2 June the pair, sole occupants of the pond, had a nest which one of them was incubating. The episode was evidently an example of territorial defence.

Aggressive behaviour of a grebe towards Ruddy Ducks was observed on the same pond on three occasions in 1984. On the morning of 2 June a Horned Grebe repeatedly attacked a pair of Ruddy Ducks in the posture used to defend against other Horned Grebes, pursuing them in rushes above the water or at times diving toward them causing the ducks to make frantic short distance escapes. The grebe showed no concern about several pairs of Redheads also present at the time.

During the evening of 29 June a grebe repeatedly chased two male and two female Ruddy Ducks one at a time and in the same manner. On the morning of 2 July the male grebe (its head furnishings were still in full breeding plumage while those of its mate were by now much paler) was seeking food swimming with head submerged and making occasional short dives. Several times he interrupted those activities to rush at a male Ruddy, approaching the duck both above and under the water, always causing the duck to swim or dive away for a short distance. As on the previous occasions ducks of other species did not arouse the grebe's antagonism. Perhaps Ruddies, because they are small divers, somewhat similar in general colour to the grebes, provide enough grebe-like stimuli to be treated as if they were conspecific birds.

[1] JOHNSGARD, P.A. 1987. Diving birds of North America. Univ. of Nebraska Press, Lincoln.

IDENTIFYING LONG-TAILED WEASELS ON THE PRAIRIES

RICK F. COURTNEY and NANCY J. SMITH, #5 7812 Hunterview Drive NW, Calgary, Alberta. T2K 5C9

The Prairie Long-tailed Weasel (*Mustela frenata longicauda*) has been listed as threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) since 6 April 1982. Concern was expressed about a possible decline in this subspecies as early as 1977.[4] Despite this relatively longstanding concern, little is known about this weasel outside of Manitoba.

Table 1 presents a method by which naturalists can contribute to knowledge of the status of this weasel in the prairies. The observations in Table 1 were collected by the authors in a one month period in the Calgary area, largely as incidental observations. The majority of the observations were road kills. Although unfortunate, road kills can provide useful information on distribution, measurements, field marks, etc. for elusive species like the Long-tailed Weasel. The possibility of measuring and sexing individuals depends upon the condition of the carcass.

The summer coloration (late April to mid-October) of Prairie Long-tailed Weasels differs from the Long-tailed Weasel depicted in the Peterson's series field guide to the mammals.[3] The white line down the hind leg which is supposed to distinguish the Long-tailed Weasel from the Ermine is very difficult, if not impossible, to see on a free-ranging animal.

Compared to the Peterson's field guide, the Prairie Long-tailed Weasel is a much lighter brown on the dorsal surface and yellowish to buff-colored on the underside. This summer coat description for the Prairie Long-tailed Weasel seems to hold

Long-tailed Weasel *Lorne Scott*

Table 1. MEASUREMENTS AND SIGHTINGS OF LONG-TAILED WEASELS IN THE CALGARY AREA, 1987.

Date	Location	Sex	Measurements (mm)				Habitat*									
			Total Length	Tail	Hind Foot	Tail Hair**	B	BPG	F	G	H	MF	P	S	UG	W
Road Kills																
26 June	1 km N of Calgary	M	460	175	46	—			+				+			
12 July	1 km N of Calgary	M	424	140	45	40			+	+			+	+		
13 July***	0.5 km N of Calgary	—	—	116	—	20			+		+		+			
13 July***	2 km N of Calgary	—	—	143	—	24			+				+			
13 July	2 km N of Calgary	—	—	—	—	—							+			
15 July	Hwy 40 4.5 km S of Hwy 1	M	435	165	47	33						+				
15 July	10 km W of Calgary	M	410	163	46	42							+			+
Sightings																
21 June	Calgary - Fish Creek Park							+					+			
26 June	Calgary - Nose Hill Park												+		+	
13 July	Calgary - 2 km N								+				+			
20 July	Calgary - 5 km N						+		+		+		+			

* Habitat types were recorded for the area within 250 m of the sighting. This distance was used because it is likely to include most or all of the home range of the weasel. BPG - Balsam Poplar Grassland, B - Barley Field, F - Farmyard, G - Gravel Pit, H - Hayfield, MF - Mixed Forest, P - pasture, S - Summerfallow, UG - Ungrazed Grassland, W - Wheat Field.

** Tail hair is a measure of the distance hair on the tail extended past the fleshy part of the tail.

*** probably juveniles - had noticeably shorter hair on the carcass as reflected in the tail hair measurements.

in southwestern Alberta (this study), Saskatchewan and North Dakota.[2] [5] However, Soper describes the Prairie Long-tailed Weasel as "white below, sometimes tinged with pale yellow."[6] The Ermine is characterized as being white on the underside although Soper described Ermine as sometimes having pale yellow underparts.[2] [5] [6] Therefore, weasels with yellowish to buff-colored undersides are probably Long-tailed Weasels; weasels with pale yellow or white undersides could be either Long-tailed Weasels or Ermine; even familiarity with the weasels of the locality does not guarantee positive differentiation on the basis of color alone. Of course the Least Weasel is easily distinguished from the other two Canadian weasel species by not having a black-tipped tail.

During moult, the belly of the Long-tailed Weasel is the first part of the pelage to turn white in the fall (Oct.- Nov.) and the last to change to the summer coat in spring (April).[5 6] As a result, belly color is not a good way to distinguish the two species from October to April.

Overall size can be used to distinguish Long-tailed Weasels from Ermine in the field, but as most observers of wildlife will realize, the size of free-ranging animals is difficult to determine with any accuracy. Unfortunately these two weasel species overlap in size and accuracy is necessary to differentiate them on this basis: Long-tailed Weasels range from 300-480 mm or more and Ermine range from 200-340 mm in total length.[1 5 6 7]

Some authors have recommended a relationship between tail length and body length to separate the two species in the field. However this relationship varies greatly depending on the authority: the Long-tailed Weasel has a tail measuring 40-70% of its body length while the Ermine has a tail measuring 30-50% of its body length.[5 6 7] Obviously there is some overlap, but a rule of thumb would be: a weasel with a tail length greater than half the body length is a Long-tailed Weasel; a tail length less than half the body length is probably, but not always, an Ermine.

A more accurate method of identifying to species prairie weasels in all seasons and localities is by measurement. That requires having the specimen "in hand," which is where road kills and other methods of obtaining carcasses are valuable. A simple measure of the tail length (excluding hair) clearly separates adult Prairie Long-tailed Weasels from Ermine. The Long-tailed Weasel is larger than the Ermine but, as in all weasels, females are smaller than males of the same

Ermine with mouse — *Wayne Shiels/ Four Winds Prairie Photography*

Table 2. PUBLISHED RANGES FOR ADULT TAIL LENGTHS OF MALE ERMINE AND FEMALE PRAIRIE LONG-TAILED WEASELS

		Tail Length Range (mm)	
Source	*Location*	*Female Long-tailed*	*Male Ermine*
Beck[2] *	Saskatchewan	139-170	60-100
Soper[6]	Alberta	138-139	81-88
Banfield[1]	Canada	**	65-90
Jones et al.[5]	Nebraska	115-142	70-101

* Beck's figures are for both sexes combined

** Banfield's figures are for a smaller eastern subspecies and are not applicable to Prairie Long-tailed Weasels.

species. The area of likely confusion concerns male Ermine and female Long-tailed Weasels which are closest in size. Table 2 presents published information on adult tail length for female Prairie Long-tailed Weasels and compares it to published male Ermine measurements.

There is no overlap between adults of the two species and any weasel with a tail length over 100 mm is likely to be an adult or juvenile Long-tailed Weasel. The tail is used for this comparison because it is the commonly measured body part that is most likely to remain intact for measurement. This method of identification should only be used in the prairies as other subspecies of Long-tailed Weasel may be smaller and overlap Ermine in tail length.

Juvenile Long-tailed Weasels, which may have shorter tail lengths, can be distinguished from adults by their shorter tail hair (as measured in Table 1). Since young begin to forage with the female as early as 6 or 7 weeks after birth and reach adult size in 10 to 11 weeks, confusion could only occur for a short period during summer.[5]

Identifying weasels accurately in the field is not always possible based on any single characteristic. Some individuals are clearly one species or the other but other individuals require careful consideration of size, coloration and tail length in comparison to body length. However with repeated observaitons and access to "in hand" specimens, observers can quickly become proficient at identifying these two species accurately.

The Wild West program was launched in 1986 by the World Wildlife Fund, Canada, to aid in the conservation of endangered prairie habitats and species. As part of this program, an evaluation of the status of the threatened Prairie Long-tailed Weasel has begun. You can help determine the status of the Long-tailed Weasel in the prairie provinces by sending Wild West any information you may have. If possible, include the date, location, description of field marks, measurements, sex, habitat within 250 m and if dead, the cause of mortality (eg. road-kill, dog, unknown). All sightings consisting of the species, approximate date and location are valuable. If the Long-tailed Weasel seems rare or absent in your area or seems to be increasing or decreasing in abundance, it is important to report this information as well. For further information contact:

Prairie Long-tailed Weasel Study
c/o Wild West Program
World Wildlife Fund Canada
#204 - 1422 Kensington Road NW
Calgary, Alberta
T2N 3P9

Acknowledgement

We would like to thank Miles Scott-Brown for his advice in preparing this paper.

[1] BANFIELD, A.W.F. 1981. The mammals of Canada. Univ.of Toronto Press, Toronto. 438 pp.

[2] BECK, W.H. 1958. Guide to Saskatchewan mammals. Sask. Nat. History Soc. Publ. No. 1. 52 pp.

[3] BURT, W.H. and R.P. GROSSENHEIDER 1976. A field guide to the mammals. Houghton Mifflin Co., Boston. 289 pp.

[4] GOVERNMENT OF CANADA 1977. Report on the status of Canadian wildlife used by the fur industry. Revised Edition. 66 pp.

[5] JONES, J.K., Jr., D.M. ARMSTRONG, R.S. HOFFMANN and C. JONES 1983. mammals of the Northern Great Plains. Univ. Nebraska Press. 379 pp.

[6] SOPER, J.D. 1964. The mammals of Alberta. Hamley Press Ltd., Edmonton 402 pp.

[7] SVENDSON, G.E. 1982. Weasels. *IN* J.A. CHAPMAN and G.A. FELDHAMER, Eds. Wild Mammals of North America. Hopkins Univ. Press, Baltimore. 1147 pp.

PREDATORY RED SQUIRRELS

PETER TAYLOR, P.O. Box 597, Pinawa,
Manitoba. R0E 1L0

Nero recently reported a Red Squirrel killing a House Sparrow at a bird feeder, and reviewed published information on predatory behaviour by this squirrel.[2] This has prompted me to document an observation of apparent predation by a Red Squirrel on a young Snowshoe Hare, and a report of a bird-killing squirrel.

At about 7:00 one morning in late April or May 1982, in an area of mainly deciduous woodland on the edge of Pinawa, a Red Squirrel was observed carrying a small mammal through the trees about 5 m overhead. At first, I thought it was transferring young from one nest to another. Disturbed by a human presence, however, it dropped its burden, which proved to be a freshly dead Snowshoe Hare leveret, no more than a few days old. Although the squirrel may have found the hare dead, it seems likely that it killed it, given this species' known carnivorous tendencies. Snowshoe Hare is not among the prey cited by Nero, but the list does include young Eastern Cottontails.[2]

Nero cites a comment by Klugh that only certain Red Squirrels are bird-eaters.[1] [2] The following casual observations would seem to support this. Red Squirrels at our feeders have always seemed tolerant of birds and I have not observed any serious antagonism in almost 10 years of feeder operation. Other Pinawa residents, however, have told me of squirrels repeatedly harassing birds at feeders. Although such activity is usually confined to driving birds away from food, I received one report of a squirrel killing birds. Unfortunately, I did not obtain further details and the observer (A.E. Weissig) is no longer resident in Pinawa.

Bob Nero's killer squirrel later also evidently tried but failed to capture a Mourning Dove. On 1 August 1987 at about 3:00 p.m., Ruth Nero was startled by a noise and looked up to see a Red Squirrel on top of a bird feeder with a mouthful of feathers. Later Bob found a patch of Mourning Dove feathers on the ground beneath the feeder (pers. comm., January 1988).

[1] KLUGH, A.B. 1927. Ecology of the Red Squirrel. *J. Mammalogy* 8:1-32.

[2] NERO, R.W. 1987. House Sparrow killed by Red Squirrel. *Blue Jay* 45:180-181.

Red Squirrel *Fred Lahrman*

NATURE LIBRARY

THE LOON - VOICE OF THE WILDERNESS

JOAN DUNNING. 1986. Yankee Publ. Inc., N.H. Forward by Robert J. Lurtsema 143 pp., line-drawings, colour plates. Hardcover $21.95

If all else about *The Loon* were to fade from my memory one impression would prove indelible. That is the insight *The Loon* has provided me into the meanings within the bird's vocal repertoire. Or at least as close as humans can yet come to truly understanding the messages in another species' voice. I had not really appreciated how threatening the mere presence of a boatload of people can be to a pair of nesting loons. I have been just as "lost in the magic [of the loon's tremolo], unable to believe the beauty of this rite of spring. The loons' cries of alarm, of desperation sound like laughter to human ears, like the essence of nature and joy and well-being . . . [people] have no sense of intrusion, any more than they would feel that they intruded on the stars or the aurora borealis. How could they know. . . . The loons speak another language . . . the sounds bear no resemblance to a plea." Author - artist Joan Dunning lets readers into the intimate lives of loons through writing inspired by years of loving observation of the birds. With few exceptions, she has done so without abandoning a sense for the "science" of the loon.

This is not a textbook to consult for the capsulated points on loon biology. It is not a reference work including data on loon ecology or behavior. Dunning's facts, however, are well-founded and the details for which science is so hungry are there. It is through her excellent interpretive natural history that they are revealed to the reader.

The book's preface clearly sets out that the subject is *Gavia immer*, the Common Loon, "the loon that has most often captured people's imaginations and whose fate is most intertwined with man's. The personal tale of a loon grounded, and later the fatal victim of a west coast oil-spill helps express the author's commitment to the birds and sets the premise for her study and writing. From here she takes the often travelled "a year in the life of" road with the loons' story, but does it so well I wasn't once let down. From winter on the ocean through the four seasons Joan Dunning shares the life of a pair of breeding loons and their offspring. It is not told with strained sentimentality, nor does it become folksy. One of her most interesting observations pertains to the timing of loons' nesting and its relative success or failure in relation to the disturbance of "loon lakes" by human recreational users: "It is just a chance occurrence of our calender, some mismatch of our needs and loons', that Memorial Day and the Fourth of July fall when they do. A pair of loons that loses a clutch of eggs". . . [to human disturbance from motor boats, etc.]. . ."in the frenzy of the Memorial Day weekend will frequently lay new eggs approximately ten days to two weeks later . . . Thus by the weekend of the Fourth of July, when extra-large crowds of vacationers again converge on the lakes, these new eggs have been incubated . . . just a week short of the twenty-nine necessary to fully form the embryos . . ." For more northerly Canadian lakes incubation begins slightly later and we can easily substitute the Victoria Day and July First weekends for the American holidays. Thus we find that Dunning's observation might generally hold true for boreal forest loons of our country. The section on the year of the loon concludes with a poignant comment on western societies' "inability to get ahold of ourselves." The message is most powerful; I'll leave it to the reader to discover on his own.

Part II briefly covers the history of the loon, putting its length into perspective by asking us to picture loons nesting at the edge of a lake visited by "*Brontotherium*, a double-horned, eight-foot North American rhinoceros, or *Orohippus*, a little sixteen-inch relative of the horse." The appendix contains information adapted from the excellent record album "Voices of the Loon," by William Barklow. The author's fine narrative style and content is complemented by her talented illustration with pen and ink drawings and water colour paintings. Both are in perfect character with the writing and bring much to the mood of this book.

The Loon is not a reference text to be consulted for the facts alone. Although the facts are there you benefit more by reading the entire book to discover them. Dunning communicates her love for loons and her conscience for taking care of this earth with a prose that submerges and surfaces as effortlessly as her subject. The only difference is that while loons leave no ripples, this author manages to send gentle waves of thought and concern regarding the future of the loon and humankind to the reader. I suggest you give *The Loon* the opportunity to float its knowledge and insight to you through its pages. Then listen across a loon-lake one spring evening. — Reviewed by *Bradley Muir*, Box 212, Waskesiu Lake, Saskatchewan. SOJ 2YO

Common Loon *Wayne Shiels/Four Winds Prairie Photography*

THE LOVELY AND THE WILD

LOUISE DE KIRILINE LAWRENCE. 1987. Natural Heritage/Natural History Inc. Toronto, Ontario. 228 pp. Illustrated by Glen Loates. $12.95

Originally published in 1968 by McGraw Hill Ryerson, this book is one of a series by Dr. Louise Lawrence being reprinted in soft covers by Natural Heritage. This is a laudable service, for these works have long been out of print. The excellence of *The lovely and the wild* was recognized in 1969 when Louise received the John Burroughs Medal for nature writers. There is something more than good writing in this book, some intuitive grasp of the relationship between mankind and nature. No living writer has a better understanding of the lives of wild birds, and it is birds that are the main subject of this book. Budding naturalists, not sure of their field of interest, will find here a tempting world; experienced nature lovers will find an affirmation of many of their deepest feelings; ornithology students will come away with insights on ways to observe, perceive and record bird behavior.

It is fitting that this capable author — now 94 — should be the quintessential naturalist; largely self-taught and with no academic background (she received an Honorary Degree of Doctor of Literature in 1970 from Laurentian University), she went on to become the first Canadian woman awarded Elective Membership in the American Ornithologists' Union. In this book we see Louise Lawrence in her early years as a naturalist, finding inspiration in the natural surroundings of a home in the boreal forest in the Shield region of Ontario. We benefit from sharing in her exploration of the natural world and the gradual development of her capabilities. She writes:

> "I know of no occupation so fulfilling as that of being a watcher. The observing self is pushed into the background, almost obliterated except for a cramped leg or an aching muscle imposed by enforced immobility. The present is dominated by the natural stage and all senses are focused upon the amazing events that are constantly taking place. Sensations and sounds arrange themselves into orderly sequences of action, revealing, mystifying, spectacular in meaning and consequence."

This fine book is illustrated by 36 line drawings by Glen Loates. There are 8 landscape or plant sketches, 7 of mammals and 21 of birds. Loates' illustrations are quick and sensitive, just like real birds.

This is the kind of book that one can open at any page and begin reading. Try this, selected at random:

> "The sound of wild alarm cries startles me. Quick as thought the warblers dash for cover low down near the ground under the thick shelter of bracken and sarsaparilla, neither heeding nor fearing the proximity of me and my feet. The assault comes fast as lightning. The dark shadow streaks past the corner of my right eye, and I do not fully realize what is happening until I see the sharp-shinned hawk land on the rounded boulder . . . For a moment the hawk remains sitting where it landed, its deep orange eye surveying the surroundings, a proud denizen of the forest pursuing its legitimate prey."

Get a copy of *The lovely and the wild* — read it, and then pass it on to some other deserving person. — Reviewed by *Robert W. Nero*, Wildlife Branch, Box 14, 1495 St. James St., Winnipeg, Manitoba. R3H 0W9

SOCIETY NEWS

NOTICE OF 1988 ANNUAL GENERAL MEETING AND PROPOSED REVISIONS TO THE SNHS CONSTITUTION

The following revisions to the SNHS constitution are proposed for approval by the membership at the 1988 Annual Meeting of the Society to be held in Saskatoon 14-16 October 1988. Please refer to the 1987 September issue of the *Blue Jay News* for a copy of the full constitution.

1.) *Resolved* that the Objects of the Society adopted at the 1968 annual meeting be amended by deleting current point 2:

> "To stimulate, develop and maintain the interest of the general public and individuals, firms and corporations in the conservation of our natural resources."

and adding new points 2 and 3 as follows with subsequent points renumbered accordingly:

> "2. To work for wise use of Saskatchewan's natural heritage ensuring survival of all native species and representative natural areas and maintenance of healthy and diverse wildlife populations throughout the province.
>
> 3. To stimulate and conduct research which will increase knowledge of all aspects of the natural world."

2.) *Resolved* that Article XI of the Constitution of the Society adopted at the 1968 annual meeting be amended by replacing "Subject to Section 47 of The Societies Act, 1959" with "Subject to Section 199 of the Non-Profit Corporations Act."

3.) *Resolved* that Article VIII of the Constitution of the Society adopted at the 1968 annual meeting be amended to read:

> "The fiscal year of the Society shall terminate on 31 August of each year."

GUIDELINES FOR AUTHORS

Following the format used by a journal when a manuscript is prepared for submission eases the task of editors in editing and preparing that article for printing. Although a standard format with centered title and author on a separate title page looks more impressive, it not only uses extra paper but it makes it more difficult to work with the material. It is also not necessary to place a list of references on a separate page. Handwritten copy is not refused; the following guides should also be used by those who do not have access to typewriters or computers for preparation of their submissions.

Style

The *Blue Jay* is classed as a semi-scientific journal. Papers are accepted from members of the Saskatchewan Natural History Society or any other interested individuals. Reporting of any observation of significance in the field of natural history is encouraged. The *Blue Jay* is the journal of the Saskatchewan Natural History Society and publishes articles of scientific or general interest dealing mainly with the northern prairie area. All submissions are reviewed by at least two individuals competent in the field plus the editor.

Except in the case of letters the use of the pronouns I and we are not encouraged, nor is the use of melodramatic reporting — these more properly belong in popular magazines. Also the use of proper names of observers is more correct than designation by titles such as Mr., Mrs. or Dr. Reporting of rare species or unusual occurrences should include as much detail as possible. For example the interest lies as much in which of the field marks of a rare bird were seen as in the fact that it was observed at a given location and time. Photographs and sketches add a great deal to the impact of an article on its readers. Although the society now has a file of photographs available for illustrating, it is by no means complete and new material or relevant illustrations are welcomed.

Scientific names are not used for North American bird and mammal species for which common names are adequate to identify the species under discussion. For plants, insects, palaeontological species, etc. both common and latin names are used; the latter are indicated as being italicised by a single underline, and appear in parentheses following the first occurrence of the common name, if known. Common names are written with capital letters when they are an accepted name for a species. Current sources of common names being used are as follows:

> AMERICAN ORNITHOLOGISTS' UNION 1983. The A.O.U. checklist of North American birds. Sixth edition.
>
> BANFIELD, A.W.F. 1974. The mammals of Canada. National Museum of Natural Sciences, Univ. of Toronto Press, Toronto.

Where a list of plant species is given it is usual for the author to **state the source of common names used** (i.e. MOSS, E.H. 1967. Flora of Alberta. Univ. of Toronto Press, Toronto). In cases where no common name can be found in literature, use of the latin name alone occurs. In these cases use of photographic material and/or sketches becomes even more valuable.

Numbers are written out from one to nine (inclusive); digits are used with standard units of measure, including dates, times, page numbers, percentages, etc. Above nine, numerals are used for all numbers. When a number less than 10 occurs in a series with numbers 10 or greater, then that number should also be a numeral. Never begin a sentence with numerals, reword the sentence, write out the number, or end the preceding sentence with a semicolon. Very large numbers should make use of a word or prefix (eg. 1.6 million).

Dates are usually written with the day, followed by the name of the month, then the year. The use of the word "on" is usually avoided unless the date appears at the beginning of a sentence. *Time* can be given using either the 12- or 24-hour clock. When using the 24-hour clock the time is given as four digits, two each for hours and minutes, not separated and followed by the abbreviation h for hours, e.g. 2113 h. The 12 hour clock requires the use of a colon between the hours and minutes and the designation a.m. or p.m., e.g. 9:13 p.m.

Distance can be given in either the English or metric (SI) systems however use only one system within the article: mile is abbreviated mi., kilometre is abbreviated km (note no period, also for metre - m, centimetre - cm, etc.).

Direction can be given using the abbreviations n, s, e, w, ne, se, sw, nw, etc. without periods.

Tables are given a number for identification within the text. The table number portion of the heading is in upper and lower case, the title is all in upper case (e.g. Table 1. BIRD NUMBERS). Subheadings are usually in upper and lower case unless for purposes of separating several sets of subheadings it is necessary to use a style such as all capitals. Underlining of subheadings denotes that they are to be in italics.

Please note that **letters** and very **short notes** are usually set with the author's names(s) and address(es) at the end of the text, following an em dash. Since most typewriters do not have an em dash a double hyphen (—) is substituted. The same system applies to **book reviews**.

If there is uncertainty about some aspects of format and style please check with a recent issue of the **Blue Jay** for similar types of articles. When in doubt consult the **CBE Style Manual** (Council of Biology Editors Style Manual, Fourth Edition 1978, CBE, American Institute of Biological Sciences, 1401 Wilson Boulevard, Arlington, VA, U.S.A. 22209) and follow their suggested format or style.

The **original and one copy** should be submitted of all text and figures. Only one copy of photographic material is required. Slides can be copied for use by the printers. Prints should be on glossy paper, either black-and-white or color. If your prints are on a matte or other finish please send the negatives so that glossy prints can be made. Captions and photo credits should accompany all photographic material.

Format

Titles are all in capital letters, beginning at the left margin at the top of the article and are **not underlined or on a separate page. Authors' names** are capitalized and begin at the left margin. The **address** (no abbreviations to be used) is in upper and lower case with the province name followed by a period, after which the postal code appears.

Text should all be double spaced to allow space for the insertion of editorial changes (please see section for computer users regarding spacing). Please do not use right justification of text even if your machine allows this; the society at present has access to a scanner which can read some type faces and will enter these on computer diskette without having to manually enter the letters again. If the text has been right justified then all the extra spaces must then be removed from the text.

Paragraphs do not require indentation but an extra space should be left between paragraphs. **Headings** within the text are **not underlined or capitalised and begin at the left margin. No title is required for the references** which are listed alphabetically at the end of the article, with authors names in capitals, the remainder of the reference in upper/lower case. References are numbered consecutively with superscript numbers. These numbers represent the reference in the text and are usually placed at the end of the sentence in which the reference is made (the superscript numbers may be entered by hand in typewritten submissions). Please do not put commas between reference numbers listed together, separate them by a single space. Lower case is used in titles with the exception of the beginning letter and proper nouns. Standard abbreviations are used for publication names where possible. Names of journals are underlined to denote italics.

It is especially important that authors check all references for accuracy and completeness. Not all of the publications you may have seen are available to the editors, and checking references is a very time-consuming and thank-less task. For others who may wish to consult these references it is a great frustration to find incomplete or incorrect information.

For Computer Users

Manuscripts may now be submitted in text file form on IBM compatible 5.25 inch DSDD diskettes which will be returned to authors when copies have been made. At least one paper copy of the manuscript should be included. Currently the editor has access to the wordprocessing programs *Wordperfect 4.1*, and *Multimate 3.12*, thus material entered using these programs can be sent without changing to text file format. These programs will also import *WordStar* documents.

The use of several style modifications when entering material will also reduce the time required for editing and preparing these papers. The document should be single spaced; please double space the hard copy which will be used by the editors. Headings in the text should be in bold face, anything that should appear in italics should be underlined. If possible leave only a single space after the period at the end of a sentence. Extra spaces are removed when the article is coded for typesetting. Paragraphs are separated by two hard returns with no indents, tabs or spaces at the beginning of the paragraph. Tables are more easily handled if set up using tabs to define the columns. If your program does not handle superscript numbers designate them by a double asterisk. (i.e. ^{3} is noted by **3).

Following the above guidelines will save time and trouble for your editors, all of whom are volunteers.

CORRECTIONS TO MARCH 1988 BLUE JAY

MISSED HEADINGS FROM PAGES 16 & 17, MARCH 1988 BLUE JAY

Table 1. COUNT COVERAGE AND WEATHER CONDITIONS

LOCALITY	**COVERAGE AND CONDITIONS**	KILOMETRES BY VEHICLE	KILOMETRES ON FOOT OR SKIS	HOURS BY VEHICLE	HOURS ON FOOT OR SKIS	HOURS WATCHING FEEDERS	TEMPERATURE MAXIMUM	TEMPERATURE MINIMUM	WIND MAXIMUM	WIND MINIMUM	SNOW MAXIMUM	SNOM MINIMUM	SKY CONDITIONS

DUE TO THE ERRORS IN THE MARCH 1988 PRINTING OF THE 1987 **SASKATCHEWAN CHRISTMAS MAMMAL COUNTS**, PAGES 56 - 62 INCLUSIVE, THOSE TABLES HAVE BEEN REPRINTED ON THE FOLLOWING PAGES.

For future reference please insert these pages in the March issue in place of those formerly printed. It is hoped that errors present in the March issue will not be used as factual data. — Ed.

Table 1-1. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

LOCALITY AND DATE **SPECIES**	ABERNETHY-KATEPWA 29 December	ASSINIBOIA 25 December	BANGOR 28 December	BATTLEFORD 24 December	BIGGAR 30 December	BIG GULLY CREEK 03 January	BIRCH HILLS 21 December	BROADVIEW 29 December	BROMHEAD 27 December	CABRI 31 December	CARRAGANA 04 January
MASKED SHREW											
SHREW species			2								
EASTERN COTTONTAIL									*(1)		
NUTTALL'S COTTONTAIL											
SNOWSHOE HARE			*(5)		2	*	*(32)	*(10)			
WHITE-TAILED JACK RABBIT	*	9			2	*	*(2)				
RICHARDSON'S GROUND SQUIRREL										+	
THIRTEEN-LINED GROUND SQUIRREL											
GREY SQUIRREL											
FOX SQUIRREL											
RED SQUIRREL	11			1		7		10			2
NORTHERN FLYING SQUIRREL											+
NORTHERN POCKET GOPHER											
BEAVER			1			L(4)					
DEER MOUSE											
GAPPER'S RED-BACKED VOLE											
MUSKRAT				1		L(7)					
MEADOW VOLE					1			*(1)	d(1)		
VOLE species											
MOUSE species						*	*(10)		*(1)		*(15)
NORWAY RAT											
HOUSE MOUSE											
PORCUPINE		1			2	1					*(2)
COYOTE						3	1	*(4)	*(1)		*(4)
WOLF											
RED FOX	*	5					*(2)		*(2)		*(1)
RACOON		2									
FISHER											
ERMINE						1	*(4)	*(3)			
LONG-TAILED WEASEL			*(1)				*(1)	*(1)			
LEAST WEASEL											
WEASEL species	*					*(2)					
MINK						*(1)		*(1)	*(1)		
BADGER		1									
STRIPED SKUNK									*(1)		
RIVER OTTER											
MULE DEER		2				2					
WHITE-TAILED DEER	*	9	*(7)		3	7		*(12)	37	+	*(8)
DEER species											
MOOSE											
ELK											
PRONGHORN		38									
TOTAL SPECIES	5	8	5	2	5	12	7	8	7	2	7

Table 1-2. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

CLEARWATER LAKE 27 December	CRAVEN 26 December	CROOKED LAKE P.P. 27 December	DUVAL 22 December	ENDEAVOUR 25 December	ESTEVAN 23 December	FORT QU'APPELLE 19 December	FORT WALSH 19 December	GARDINER DAM 21 December	GLAMIS-WISETON 28 December	**LOCALITY AND DATE** **SPECIES**
										MASKED SHREW
		*(1)								SHREW species
					1					EASTERN COTTONTAIL
							1	3	+	NUTTALL'S COTTONTAIL
1	*(5)	1				+		*(10)		SNOWSHOE HARE
			1		1	+	*(11)	4	+	WHITE-TAILED JACK RABBIT
										RICHARDSON'S GROUND SQUIRREL
										THIRTEEN-LINED GROUND SQUIRREL
				*						GREY SQUIRREL
					1					FOX SQUIRREL
		6		8		2	44			RED SQUIRREL
										NORTHERN FLYING SQUIRREL
										NORTHERN POCKET GOPHER
		*(1)	L(1)							BEAVER
			1			1				DEER MOUSE
			2							GAPPER'S RED-BACKED VOLE
		1	L(2)			1				MUSKRAT
						+	1	1	*(2)	MEADOW VOLE
										VOLE species
	*(7)	*(18)	*(3)				*(5)	*(15)		MOUSE species
						+				NORWAY RAT
						+				HOUSE MOUSE
		1		*(2)		+	2	2		PORCUPINE
	*(2)	2	*(2)	*(2)	1	+	6	4	*(2)	COYOTE
										WOLF
		*(1)	*(3)			1	1	*(5)	*(2)	RED FOX
										RACOON
										FISHER
		*(1)				+				ERMINE
		*(1)	*(1)							LONG-TAILED WEASEL
			*(1)							LEAST WEASEL
			*(1)				*(1)	*(2)		WEASEL species
		*(3)				+				MINK
			D(1)					D(1)		BADGER
								S(1)		STRIPED SKUNK
										RIVER OTTER
							52	4	+	MULE DEER
		3	*(7)	*(4)	10	+	49	15		WHITE-TAILED DEER
*										DEER species
				1			*(1)			MOOSE
							87			ELK
										PRONGHORN
2	3	13	11	6	5	14	12	12	6	TOTAL SPECIES

Table 1-3. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES / LOCALITY AND DATE	GOOD SPIRIT LAKE 22 December	GOVENLOCK 20 December	GRAND CENTRE 26 December	HUMBOLDT 26 December	INDIAN HEAD 27 December	KAMSACK-TOGO 02 January	KEDLESTON 19 December	KELVINGTON 23 December	KENASTON 23 December	KUTAWAGAN LAKE 30 December
MASKED SHREW										
SHREW species	*(2)		*(3)	*(3)						
EASTERN COTTONTAIL										
NUTTALL'S COTTONTAIL		4			*(4)				*(7)	
SNOWSHOE HARE	*(36)		*(3)	3	*(3)		1	*(38)		*
WHITE-TAILED JACK RABBIT	*(11)	7		1	*(3)	2	2	1	*	1
RICHARDSON'S GROUND SQUIRREL		1								
THIRTEEN-LINED GROUND SQUIRREL				+						
GREY SQUIRREL										
FOX SQUIRREL										
RED SQUIRREL	5		3		6					
NORTHERN FLYING SQUIRREL	1									
NORTHERN POCKET GOPHER	D(1)									
BEAVER	L(1)									
DEER MOUSE										
GAPPER'S RED-BACKED VOLE	1									
MUSKRAT	L(5)								L(3)	
MEADOW VOLE										
VOLE species										
MOUSE species	*(10)		*(2)		*(4)			*(10)	*	
NORWAY RAT							*			
HOUSE MOUSE										
PORCUPINE	*(1)	2		*(1)			1		+	
COYOTE	*(3)	7		*(8)	1	3	H	*(15)	*	1
WOLF										
RED FOX		2		*(4)	1			*(13)	*	1
RACOON								*(1)		
FISHER										
ERMINE										
LONG-TAILED WEASEL					*(5)			+	*	
LEAST WEASEL								+		
WEASEL species	*(4)							*(7)		
MINK	+								+	
BADGER		D(4)			*(1)					
STRIPED SKUNK		S(2)			*(1)			*(1)	+	
RIVER OTTER										
MULE DEER		17								
WHITE-TAILED DEER	*(18)	36	*(2)	*(10)	1	4	3	*(15)	+	*
DEER species										
MOOSE						4				
ELK										
PRONGHORN		162								
TOTAL SPECIES	14	11	5	8	11	4	6	10	11	5

Table 1-4. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

LA RONGE 28 December	LAST MOUNTAIN L. W.M.U. 26 December	LEADER 26 December	LEASK 25 December	LIVELONG 27 December	LOON LAKE 27 December	LOVE-TORCH RIVER 29 December	LUSELAND 27 December	MAIDSTONE BRIDGE 02 January	MARSDEN 26 December	**LOCALITY AND DATE** **SPECIES**
										MASKED SHREW
										SHREW species
										EASTERN COTTONTAIL
										NUTTALL'S COTTONTAIL
*(12)				+		1	2	*		SNOWSHOE HARE
	2	1		*(2)		*(1)				WHITE-TAILED JACK RABBIT
										RICHARDSON'S GROUND SQUIRREL
										THIRTEEN-LINED GROUND SQUIRREL
										GREY SQUIRREL
										FOX SQUIRREL
2				1		11		2		RED SQUIRREL
										NORTHERN FLYING SQUIRREL
										NORTHERN POCKET GOPHER
								L(3)		BEAVER
										DEER MOUSE
										GAPPER'S RED-BACKED VOLE
2	L(7)							L(6)	2	MUSKRAT
							*(6)			MEADOW VOLE
										VOLE species
		15		+		*(3)	*(8)	*		MOUSE species
										NORWAY RAT
										HOUSE MOUSE
	2			+			*(1)	1		PORCUPINE
	2	1		1		H(3)	*(7)	*		COYOTE
										WOLF
*(2)	1			3	1	*(5)	1			RED FOX
										RACOON
										FISHER
*(4)				+						ERMINE
				*(5)						LONG-TAILED WEASEL
			1	+			*(3)			LEAST WEASEL
	*					*(1)		*		WEASEL species
						*(2)				MINK
										BADGER
							*(1)			STRIPED SKUNK
										RIVER OTTER
		10		+	24		9			MULE DEER
	7	7	*(1)	3	10	5	*(8)	4	2	WHITE-TAILED DEER
										DEER species
					14					MOOSE
						4				ELK
		6					1			PRONGHORN
5	7	6	2	12	4	10	10	9	2	TOTAL SPECIES

Table 1-5. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

	LOCALITY AND DATE									
SPECIES	MELVILLE 26 December	MOOSE JAW 26 December	NAICAM 19 December	PIKE LAKE 02 January	PINE CREE R. PARK 25 December	PREECEVILLE 26 December	PRINCE ALBERT EAST 03 January	PRINCE ALBERT CITY 29 December	PRINCE ALBERT N.P. 20 December	QU'APPELLE DAM 31 December
MASKED SHREW										
SHREW species										
EASTERN COTTONTAIL										
NUTTALL'S COTTONTAIL					1					
SNOWSHOE HARE	+	*(16)	*(5)	2		*	3		*(5)	2
WHITE-TAILED JACK RABBIT		*(28)			1					1
RICHARDSON'S GROUND SQUIRREL										
THIRTEEN-LINED GROUND SQUIRREL										
GREY SQUIRREL										
FOX SQUIRREL										
RED SQUIRREL				1		H(1)	+	12	16	
NORTHERN FLYING SQUIRREL										
NORTHERN POCKET GOPHER										
BEAVER		*(1)			*(1)					
DEER MOUSE										
GAPPER'S RED-BACKED VOLE										
MUSKRAT		*(1)							*(2)	1
MEADOW VOLE	*(2)									
VOLE species									*(6)	
MOUSE species		*		*(1)	*(25)		*(10)		*(6)	1
NORWAY RAT										
HOUSE MOUSE										
PORCUPINE		*(1)	*(1)	1	1					
COYOTE		*(7)		*(1)	1				+	1
WOLF									4	
RED FOX	2	*(7)	*(1)		*(1)		+		1	*(3)
RACOON				*(1)						
FISHER									*(2)	
ERMINE										
LONG-TAILED WEASEL										
LEAST WEASEL		*(1)							*(3)	
WEASEL species			*(1)	*(2)	*(3)				*(3)	*(2)
MINK		*(2)							*(2)	*(1)
BADGER										
STRIPED SKUNK			S(1)							
RIVER OTTER									*(2)	
MULE DEER					36				*(2)	2
WHITE-TAILED DEER	*(2)	13	*(2)	3	8	*(2)	+			3
DEER species									*(5)	
MOOSE									1	
ELK									61	
PRONGHORN					+					
TOTAL SPECIES	4	11	6	8	11	3	5	1	15	10

Table 1-6. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

RAYMORE 24 December	REGINA 26 December	ROUND LAKE 02 January	SASKATOON 26 December	SCOTT 02 January	SKULL CREEK 26 December	SNOWDEN 27 December	SPINNEY HILL 31 December	SPRING VALLEY 28 December	SQUAW RAPIDS 17 December	**LOCALITY AND DATE** **SPECIES**
1										MASKED SHREW
										SHREW species
										EASTERN COTTONTAIL
					6					NUTTALL'S COTTONTAIL
3	1	*(12)	11	*(1)		*(15)			*	SNOWSHOE HARE
4	16	*(2)	2		2	1		*	1	WHITE-TAILED JACK RABBIT
										RICHARDSON'S GROUND SQUIRREL
										THIRTEEN-LINED GROUND SQUIRREL
										GREY SQUIRREL
										FOX SQUIRREL
H(2)	12	*(6)	2	1		3			17	RED SQUIRREL
										NORTHERN FLYING SQUIRREL
										NORTHERN POCKET GOPHER
L(1)						L(2)			L(3)	BEAVER
4	*(14)									DEER MOUSE
2										GAPPER'S RED-BACKED VOLE
L(6)		*(1)	1						L(1)	MUSKRAT
3	*(11)									MEADOW VOLE
										VOLE species
	*	*	*(9)		*	*(4)		*		MOUSE species
*										NORWAY RAT
1										HOUSE MOUSE
2	*(2)		*(3)		*(2)				1	PORCUPINE
H(3)	1	*(16)	7		*(6)	*(9)		2	3	COYOTE
									*(2)	WOLF
*(4)	14	*(1)	2		1	*(1)		*(1)	*(2)	RED FOX
	*(2)									RACOON
										FISHER
	1	*(1)						+		ERMINE
1		*(5)	*(2)		2	*(1)				LONG-TAILED WEASEL
		*(3)	1							LEAST WEASEL
*(3)	*(5)		*(11)			*(2)			*(7)	WEASEL species
		*(1)			+			+	*(2)	MINK
D(1)								*(1)		BADGER
S(1)	*(4)					*(1)		+		STRIPED SKUNK
									*(1)	RIVER OTTER
			1		+			6		MULE DEER
23	*	*(5)	*(35)	*(2)	+	*(17)	3		3	WHITE-TAILED DEER
										DEER species
						1			2	MOOSE
						*(2)			*(7)	ELK
					+					PRONGHORN
18	12	12	12	3	11	12	1	9	15	TOTAL SPECIES

Table 1-7. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

LOCALITY AND DATE SPECIES	TISDALE 25 December	TOMPKINS 04 January	WARMAN 26 December	WEYBURN 19 December	WHITE BEAR 26 December	WHITE BEAR LAKE 17 December	WHITEBEECH 28 December	WOLSELEY 27 December	YORKTON 19 December	TOTAL COUNTS PER SPECIES
MASKED SHREW										1
SHREW species						*(4)	*(1)			7
EASTERN COTTONTAIL										2
NUTTALL'S COTTONTAIL		3			1					10
SNOWSHOE HARE				*(13)		*(16)	*(100)	*(4)	1	42
WHITE-TAILED JACK RABBIT	*(3)	2		*(8)	3					38
RICHARDSON'S GROUND SQUIRREL										2
THIRTEEN-LINED GROUND SQUIRREL										1
GREY SQUIRREL										1
FOX SQUIRREL				2						2
RED SQUIRREL	2					2	*(3)			31
NORTHERN FLYING SQUIRREL										2
NORTHERN POCKET GOPHER										1
BEAVER				*(2)						12
DEER MOUSE										4
GAPPER'S RED-BACKED VOLE										3
MUSKRAT										18
MEADOW VOLE				1		*(6)				13
VOLE species										1
MOUSE species				1		*(4)			*(14)	34
NORWAY RAT										3
HOUSE MOUSE										2
PORCUPINE		1			1		*(1)			30
COYOTE	*(10)	11	*(3)		1		*(2)	*(2)	*(2)	49
WOLF										2
RED FOX	*(4)		+	*(10)	*(2)	*(1)	*(1)		*(2)	45
RACOON				*(3)						5
FISHER										1
ERMINE										10
LONG-TAILED WEASEL		*(2)					*(1)	*(1)		17
LEAST WEASEL						*(2)				10
WEASEL species							*(1)		*(4)	22
MINK									*(1)	16
BADGER					*(1)					8
STRIPED SKUNK						*(2)			*(1)	14
RIVER OTTER										2
MULE DEER		28		*(4)	120					19
WHITE-TAILED DEER	*(10)	14	*(1)	4	3		*(10)	*(3)	*(6)	60
DEER species										2
MOOSE										7
ELK							*(2)			6
PRONGHORN		80								7
TOTAL SPECIES	5	8	3	9	8	7	9	4	8	

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